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REVIEW

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This is a two-monthly review.

Every January the Review presents a full-length general survey of the economic situation.

Other issues contain a short general survey followed by special articles on topical economic problems and studies of underlying trends.

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# SUMMARY

*The Chancellor's measures of 25 July are discussed fully on pages 15 and 16*

## The economic situation

After a year in which it had not risen at all, industrial production began to move up a little in April and May. It is clear that there was a big rise in total demand, excluding investment in stocks, in the first quarter. Consumer spending then went up over 2 per cent (in real terms); half of this rise was in durable goods, mainly cars (though spending on them was still much lower than a year earlier). Consumer spending probably continued to rise, though more slowly, in the second quarter. Investment and government expenditure also rose in the first quarter. Stocks, on the other hand, went up at less than half the 1960 average rate and the rise in the second quarter was probably modest as well.

The restrictive measures are likely to slow down the rate at which output is rising; if the uncertainty they induce leads to reductions in stocks, the rise could be halted. The increase in indirect taxes will cut *consumers' expenditure* directly by perhaps rather less than 1 per cent. On the other hand, the Chancellor's measures may only reduce the size of the coming wage round a little, since although they lower the pressure of demand they also raise retail prices. By the beginning of 1962, consumers' expenditure may be 1-2½ per cent higher than a year earlier; this implies little further increase. Before the measures, there were already signs that the *investment* boom might come to an end next year: the measures may hasten the end a little, mainly through their effect on house building. In total, national output at the beginning of 1962 may be some 2-3 per cent higher than a year earlier; this implies only a slow rise from now on—and, if there were a period of stock reduction, there might be no rise at all.

The current deficit in the balance of payments in the first quarter was £56 million—and the overall deficit, including long-term capital transactions, about £150 million. In the second quarter, the current deficit may have fallen to less than £25 million. Exports recovered between the third quarter of last year and the first quarter of this; but in the second quarter they fell a little, though probably the figures were turning up at the end of the quarter. There has been a very big fall in the export of cars, not only to the United States, compared with a year ago. Imports fell in the second quarter: the fall was general, except for finished manufactures.

Other sterling area countries have been cutting back imports and, after drawing down their balances in the first quarter, they probably built them up in the second. It is not known how much outflow of short-term capital there has been this year to non-sterling countries; the figure is probably substantial, since there was an inflow of about £600 million last year.

The combination of the rise in Bank Rate and the announcement of the intended drawing on the IMF may well stem the immediate speculative flight from sterling. Otherwise, the measures are unlikely to alter the balance of payments prospects much. With demand rising more slowly, the volume of imports may rise perhaps 2-3 per cent between the second and fourth quarters of this year; it could be less if stock-building is sharply reduced. The volume of exports was in any case likely to rise, to a level perhaps 2-4 per cent higher at the end of the year than at the beginning—mainly because exports to the United States should recover sharply. It seems unlikely that the measures will lead to a much faster rise than this, since they will reduce demand for the output of industries which already have spare capacity. The current deficit in the second half of the year could still be above £100 million. In the longer run, the restriction of capital exports to non-sterling countries and successful negotiations to reduce the balance of payments cost of defence could have a rather more significant effect on the overall balance.

## Labour supplies: trends and prospects

The labour force is fairly certain to rise faster in the next five years than in the last five; this is partly because of the 'bulge' of fifteen-year-olds, which will be particularly big in the next two years. Two forward estimates are made: the higher assumes that the proportion of women aged 35-64 who are at work—which has risen 9 per cent in the last decade—will go on rising; it also assumes a high rate of immigration. The lower estimate assumes no increase in the proportion of the population seeking work, and that immigration will be lower than at present.

The main regional change in the past decade has been the trend of employment opportunities to the Midlands and South; from 1955 to 1960 employment in the rest of the country hardly rose at all. There is no reason to think that there will be any change in this trend. The regional pattern of unemployment has altered little since 1950.

Skilled labour is very much more scarce than unskilled; but the unemployment and vacancy figures do not suggest any increase in this relative scarcity in recent years. There is no appreciable upward trend in the number of apprenticeships to suggest that the scarcity will be reduced in future.

## Economic growth: the last hundred years

This article assesses, for the main Western countries and Japan, the available figures of economic growth over the last hundred years and discusses the conclusions that can legitimately be drawn from them.



# THE ECONOMIC SITUATION

*This appraisal of the economic situation was prepared before the Chancellor's measures announced on 25 July. The effects of these measures, and the modifications to the economic prospects for demand, are discussed on pages 15 and 16.*

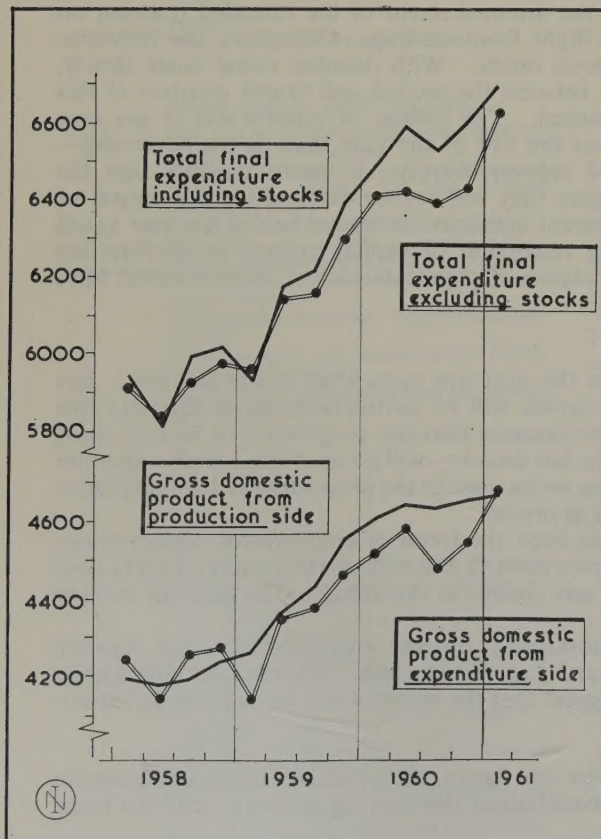
Although the figures are very uncertain, it now seems likely that output and expenditure have been rising since the end of 1960, in spite of a reduced rate of stock accumulation. The rise in output is likely to continue through the rest of this year and in 1962. Prices have been rising and are likely to continue upward at a fairly rapid rate. The balance of payments is still in serious deficit, and is likely to remain so up to the end of the year. Rising exports may lead to a moderate current account surplus in the first half of next year, but a substantial overall deficit is likely to continue.

## Expenditure and output

The production figures suggest that the gross domestic product rose only marginally in the first

**Chart 1. Alternative estimates of the gross domestic product ; and the effect of changes in investment in stocks**

£ million, 1954 prices



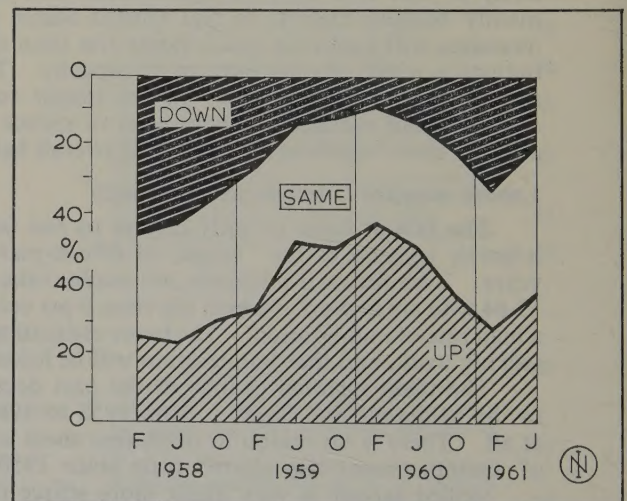
Source : Appendix, table 1.

quarter of 1961, and was still less than  $\frac{1}{2}$  per cent higher than in the second and third quarters of 1960. On the other hand, the figures of expenditure at constant prices suggest that the gross domestic product rose by over 2 per cent between the fourth quarter of 1960 and the first quarter of 1961, after almost as big a rise between the third and fourth quarters.

There is no way of reconciling this statistical discrepancy to show which set of figures is the more accurate. Recent experience suggests that the expenditure figures fluctuate more and may be a more sensitive indicator of changes of trend. In the absence of better information, the best one can do is to assume that the true trend of domestic output and expenditure was somewhere between the two available sets of statistics shown on the chart. This suggests that the domestic product, after reaching a trough in the third quarter of 1960, subsequently rose by something like 1 per cent a quarter.<sup>(1)</sup> In the second quarter, production and expenditure probably rose rather faster. This is indicated both by such figures of expenditure as are available for the second quarter and by the slight rise in the index of industrial production. It is confirmed by the sharp change in the trend of new orders received by manufacturers which was reported in the June FBI Inquiry.

**Chart 2. FBI Inquiry question : Are your new orders up or down?<sup>(a)</sup>**

Per cent of firms replying



Source : FBI press releases. For a suggested method of interpreting these figures, see *National Institute Economic Review*, May 1961, page 5.

(a) Compared with four months earlier.

<sup>(1)</sup> Many of the series used in the index of production represent deliveries, not output. In a period when work in progress is increasing, deliveries might well increase less than actual output and the production figures may be substantially underestimated.



## Expenditure

The recovery in final sales<sup>(1)</sup> in the first quarter was very strong, although the effects on total expenditure were partly offset by a sharp reduction in the rate of stock accumulation (chart 1). The recovery was the result of a sharp rise in each of the major elements in final sales (consumers' expenditure, public current spending, fixed investment and exports). The apparent rise in current public spending is probably the result of an unusually high concentration of payments at the end of the financial year and almost certainly does not reflect a corresponding rise in the volume of purchases. The same could be true of public fixed investment, but even if current public spending is assumed to have followed its recent trend, and some of the rise in expenditure on investment is not regarded as significant, the rise in the volume of final sales would still have been about 2 per cent between the fourth quarter of 1960 and the first quarter of 1961; consumers' expenditure rose by nearly 2 per cent, fixed investment by up to 4 per cent and exports of goods and services by  $3\frac{1}{2}$  per cent.

## Consumers' expenditure

Of the increase in consumers' spending in the first quarter (seasonally adjusted), over half went on durables; expenditure on durables rose 15 per cent and on non-durables by less than 1 per cent. In spite of this increase, spending on durables was still 15 per cent lower than in the boom of the first quarter of 1960. Spending on furniture was 8 per cent lower and on radio, electrical and other household durables 14 per cent lower. The contraction of outstanding consumer debt to household goods shops in the first quarter and again in the second was probably mainly seasonal.

Consumer spending on new cars and motor-cycles is officially estimated to have been 19 per cent lower in the first quarter of 1961 than a year before, although total registrations of new cars fell by only 8 per cent. The reason for the discrepancy lies to a small extent in the sharp (30 per cent) fall in motor-cycle registrations and to a more important extent in a switch within the total of car registrations towards small cars of less than 1200 c.c., whose share in the market has risen from just over 50 per cent to just over 55 per cent. These changes in composition cannot explain the whole of the fall in consumer spending on vehicles; the official statistics seem to have allocated an increased share of total registrations to business purchases. Outstanding debt to finance houses (mainly incurred for purchase of cars and other vehicles) rose in both the first and the second quarters, as did personal and professional bank advances,

which may largely be used for buying cars. In the second quarter new car registrations continued at the rate of about 70 thousand a month (seasonally corrected) which had been established in February, and consumer spending on cars in the second quarter was about 10 per cent higher than in the first.

There are no signs of a further recovery in sales of consumer durables other than cars in the second quarter; but the total volume of consumer spending probably continued to rise in the second quarter and may have been about 1 per cent higher than in the first, largely because of increased spending on cars and motoring.

Prospects for consumers' expenditure are dominated by likely wage and salary rises and by the prospects of further price rises, which are discussed below (page 9). In the absence of action by the Government to restrain spending, an increase is likely through the rest of the year, mainly affecting expenditure on non-durables. There is no reason to expect further big increases in spending on durables; the net rise in consumer debt is likely to be small for the rest of this year. By the first quarter of 1962 consumers' expenditure may be  $2\frac{1}{2}$ - $3\frac{1}{2}$  per cent higher in real terms than it was in the first quarter of this year.

## Fixed investment

Most of the 4 per cent increase in the volume of fixed investment (seasonally adjusted) between the fourth quarter and the first is accounted for by an

**Table 1. Fixed investment**

*£ million, 1954 prices, quarterly averages, seasonally adjusted*

	Total	Dwellings	Industries and services		
			Public	Private <sup>(a)</sup>	
				Manu- facturing	Other
1957	742	135	253	198	156
1958	751	127	256	188	180
1959 I	763	138	261	179	185
II	790	139	270	177	204
III	807	149	294	176	188
IV	828	154	304	184	186
1960 I	861	155	312	193	201
II	856	167	276	200	213
III	892	166	311	225	190
IV	881	167	291	220	203
1961 I	917	165	321	232	199

Source: Appendix, table 12.

(a) The division between manufacturing and other industries is approximate.

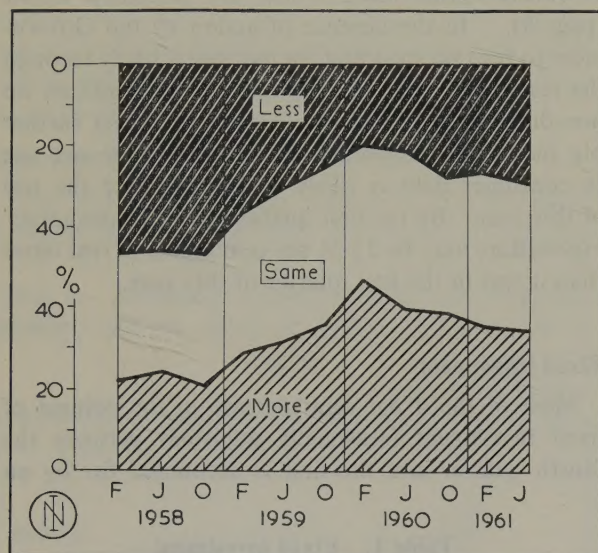
<sup>(1)</sup> Defined as final expenditure minus stock accumulation.



apparent rise of 11 per cent in public investment other than housing. Investment by manufacturing industries rose by  $5\frac{1}{2}$  per cent, and seems likely to continue to rise rapidly through the rest of 1961. The June FBI Inquiry suggests that the investment boom in manufacturing for the time being continues as strongly as ever (chart 3). On the other hand, factory building approvals fell sharply again in the second quarter, and were not significantly higher than the lowest point reached in 1958. A decline in total investment by manufacturing industry during 1962 now seems increasingly likely.

**Chart 3. FBI Inquiry question: Do you expect to authorise more expenditure on plant and machinery?<sup>(a)</sup>**

*Per cent of firms replying*



Source: FBI press releases.

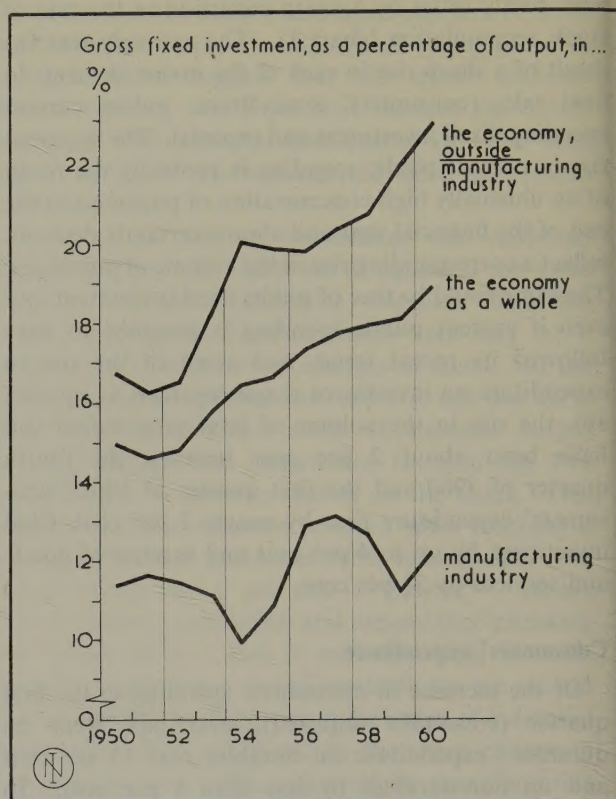
(a) In the next twelve months compared with the past twelve months.

Investment in housing has not increased above the level maintained throughout the greater part of 1960, probably because the building industry is working to the limits imposed by shortages of labour and materials. New orders continue to exceed work done, and it is unlikely that the increase in the mortgage rate to  $6\frac{1}{2}$  per cent will have any appreciable effect on building work in the near future. The only tentative and rather uncertain indication of a slackening demand for new housing is that in the first quarter of 1961, the value of architects' new commissions for houses fell well below the level of a year earlier (table 2). On the other hand, their commissions for private offices and similar developments are up, but for factories down. The net effect is that the present investment boom is likely to continue through the rest of this year but slacken off some time in 1962.

The investment boom of 1960-61 has brought the percentage of domestic output devoted to fixed investment to record high levels; in the first quarter of 1961 it reached  $19\frac{1}{2}$  per cent of output, having

**Chart 4. The ratio of gross investment to output in manufacturing and other industries**

*Percentages, 1954 prices*



Source: Appendix tables 1, 2 and 12, and National Income and Expenditure, 1960.

risen from less than 15 per cent in 1950-52. It is, however, remarkable that the big increase in the ratio of gross investment to output has occurred outside manufacturing industry. The ratio of manufacturing investment to manufacturing output is now only a little higher than in 1950-52, whereas the ratio of investment outside manufacturing industry to the output of the non-manufacturing sectors of the economy has risen from about  $16\frac{1}{2}$  per cent in 1950-52 to nearly 23 per cent in 1960.

### Stocks

Stock-building by manufacturing industry practically came to a halt in the first quarter of the year, but increased in the distributive trades. The net effect was that total stock-building was probably about half the abnormally high levels of 1960. Manufacturers' stocks of materials and work in progress rose a little, chiefly in the textile, clothing and paper trades. The increase of material stocks in manufacturing industry was explained by rises in stocks of imported commodities and of steel. Total stocks of imported materials probably continued to rise (largely because of a rise in fuel oil stocks at a time of the year when



Table 2. New commissions for private architects

£ million

	1959				1960				1961
	I	II	III	IV	I	II	III	IV	I
Private housing .. .. .	77	57	68	74	108	54	67	107	62
Public housing .. .. .	17	28	13	13	18	17	33	16	13
<b>Total, housing .. .. .</b>	<b>94</b>	<b>85</b>	<b>81</b>	<b>87</b>	<b>126</b>	<b>71</b>	<b>100</b>	<b>123</b>	<b>75</b>
Private industrial buildings .. .. .	46	32	30	55	54	54	36	39	39
Other private buildings .. .. .	91	68	66	80	89	91	93	95	112
Other public buildings .. .. .	36	37	48	48	92	55	47	72	56
<b>Total, all new commissions .. .. .</b>	<b>267</b>	<b>222</b>	<b>225</b>	<b>270</b>	<b>361</b>	<b>271</b>	<b>276</b>	<b>329</b>	<b>282</b>

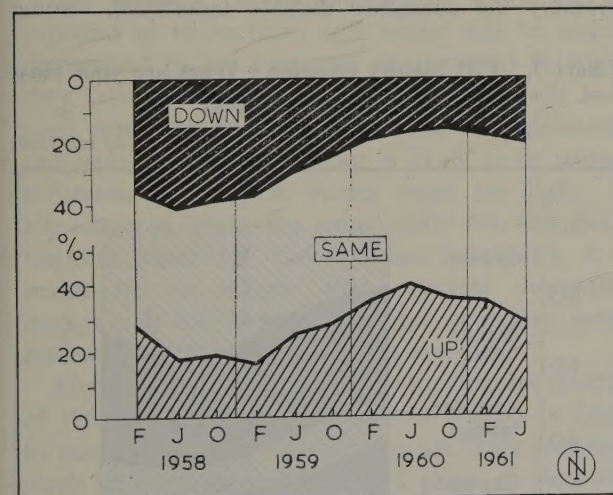
Source : Royal Institute of British Architects.

reductions have been normal), but the increase was at a much lower rate than in the second half of 1960.

On balance, it is likely that in the second quarter total stocks continued to rise at a modest rate. The FBI Inquiry suggests that the rate of accumulation of stocks of raw materials by manufacturers fell sharply between February and June. The import figures suggest that imported stocks may have continued to rise a little in April/May, but probably

Chart 5. FBI Inquiry question : Are your stocks of raw materials up or down?<sup>(a)</sup>

Per cent of firms replying



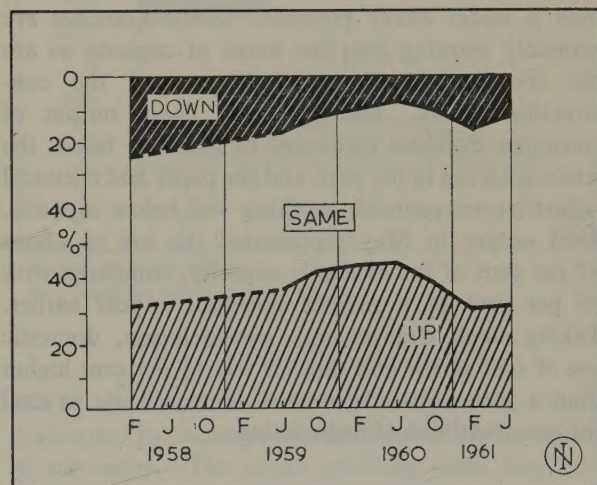
Source : FBI press releases.

(a) Compared with four months earlier.

at no faster rate than is to be expected in a period of rising activity. The FBI Inquiry suggests that manufacturers' work in progress was tending to increase between February and June. There are no

Chart 6. FBI Inquiry question : Are your stocks of work in progress up or down?<sup>(a)</sup>

Per cent of firms replying



Source : FBI press releases.

(a) Compared with four months earlier.

clear indications about the greater part of manufacturers' stocks of finished goods or distributors' stocks, but it is clear that stocks of motor cars continued to fall in the second quarter, while total retail stocks rose.

### Prospects for overall demand

If allowance is made for a substantial rise in exports (page 14), for a continuation of the trend towards an increase in the share of domestic expenditure going to imports, and for a slight decline in Government expenditure from its apparently abnormally high level in the first quarter of 1961, it seems likely that total final sales of United Kingdom output (at constant prices) may rise about 3½-4 per cent over the year from



the first quarter of 1961. If stock accumulation continued at its recent and relatively normal rate, total output would rise by almost the same percentage.

### Production and productivity

The index of industrial production showed a rise only in April. Up to then output had apparently remained about level for a year, while employment increased nearly 2 per cent. As already indicated (page 4) there are reasons for thinking that the true level of output had risen more than this. But taken as they stand the figures suggest that output per head was  $1\frac{1}{2}$  per cent lower than at its peak in April 1960, with productivity in manufacturing industry showing a fall of over  $2\frac{1}{2}$  per cent (table 3). Part of the decline was of course due to the decline in hours worked, the extent of which cannot be accurately measured. Productivity per man-hour in manufacturing as a whole has probably not changed significantly over the past year.

The capital goods sector of the engineering industries is under heavy pressure. Some branches are probably working near the limits of capacity as are the commercial vehicle producers and the construction trades. On the other hand, output of consumer durables continues to run well below the levels achieved in the past, and the paper and chemical industries are probably working well below capacity. Steel output in May represented the use of about 87 per cent of the available capacity, compared with 95 per cent of a smaller potential a year earlier. Taking stock changes into consideration, domestic use of steel in the first quarter was  $1\frac{1}{2}$  per cent higher than a year earlier, because of increased use in steel for construction and engineering.

**Table 3. Output per head**

1954 = 100

	1960	1961	
	April	Jan.- March	April
Manufacturing.. ..	118.8	114.9	116.1
of which			
Metals, metal-using	115.8	111.6	113.5
Textiles .. ..	112.8	108.7	111.6
Mining .. ..	98.3	101.3	102.5
All industries .. ..	<b>116.5</b>	<b>114.8</b>	<b>116.3</b>

Source : Appendix table 8.

Note : These figures are based on output figures ; for possible qualifications, see the text.

Prospects for demand suggest that this situation of strain on some sectors and considerable surplus capacity in others, will continue. The inflow of home orders in the capital goods sector of the engineering industries was at a record level in March/April, although new export orders fell sharply in April. Car production may also rise, even if the level of exports remains low, since the home market has apparently largely been supplied by running down stocks since the beginning of the year ; nevertheless, production is likely to remain below capacity, so long as exports fail to recover markedly. New orders for textiles and clothing, after an improvement in April, fell sharply in May and are running well below the level of a year earlier. A continuing threat to these industries is the rising trend of imports of garments and fabrics, which are taking a steadily increasing share of the home market.

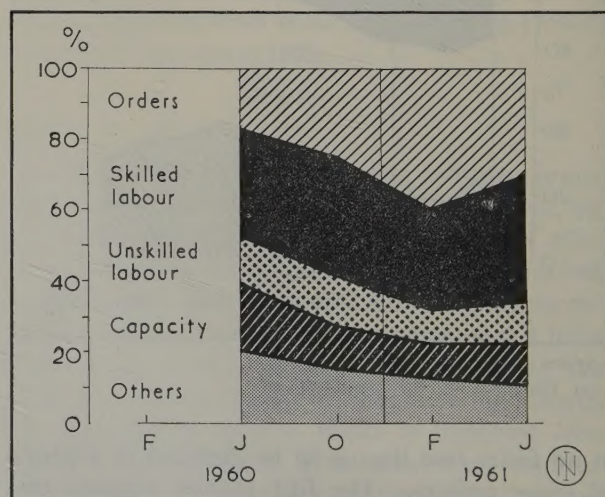
### Capacity and labour limitations

The economy's capacity to produce is probably continuing to increase at 3 per cent or so per year. A rise of about  $3\frac{1}{2}$ -4 per cent in total demand between the first quarters of 1961 and 1962 is not much larger than this increase in potential capacity, and would not be likely to lead to general overstrain, since the economy was working well below its full potential in early 1961.

This statement is, however, only part of the story. Even though total demand may be no greater than total capacity to produce, too much of the demand seems likely to be directed in some directions (notably the capital goods industries) and too little in others (notably the consumer durable industries). Some

**Chart 7. FBI Inquiry question : What are your most important shortages?**

Per cent of mentions



Source : FBI press releases.

(a) The percentage of the total number of 'most important shortages' mentioned.



transfer of resources is probably taking place, either by movement of labour or by switching of contracts by component manufacturers, but it is not happening fast enough to prevent imbalance between sectors.

This imbalance is likely to continue to be accompanied by a scarcity of skilled labour (chart 7). On the other hand, there is no evidence of a serious overall shortage of labour; the index of excess demand for labour rose slightly from  $-0.02$  in the first quarter to  $+0.03$  in the second and remained at that level in July.

In a special article in this issue (page 17) it is shown that the likely increase in the labour force this year and in the next two years is substantially bigger than normal post-war experience. It therefore appears that an overall labour shortage should not be a serious limitation to a substantial growth in output over the next year and thereafter. On the other hand, relatively little of the additional labour will be skilled, and a severe shortage of some grades of skilled labour is likely to persist.

### Wages and prices

Wage rates have risen quite slowly since the big settlements at the end of 1960; between the end of December and May weekly rates in manufacturing industry rose on average by 1 per cent. The pause between wage rounds is likely to continue until the early autumn, but a number of settlements are likely to be made in the last quarter of 1961 or the first quarter of 1962. There are as yet no clear indications of how the round is likely to go.

The outcome of the negotiations which can be expected in the autumn and winter will be largely determined by the economic environment in which they take place; since the cost of living will have risen markedly since the last round of negotiations and since demand for labour is likely to be strong, substantial increases in money wages are likely. If allowance is made for wage drift, for the rising working population and for rises in salaries, it is reasonable to assume that personal disposable income will rise about 6 per cent in money terms between the first quarters of 1961 and 1962.

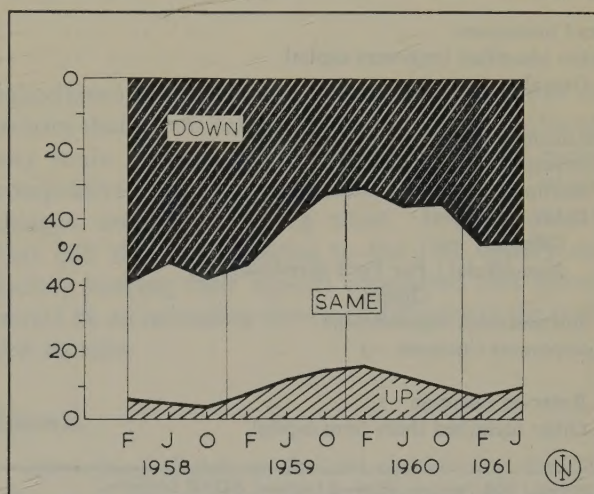
After rising about 1 per cent in the first five months of 1961, the retail prices index rose sharply in June, by nearly 1 per cent. Further rises are likely soon as a result of increased rail fares and prices of alcoholic drink and during the whole of 1961 a  $3\text{--}3\frac{1}{2}$  per cent rise seems likely even if indirect taxes are not raised.

Rising industrial costs should not contribute very much to price rises, at least until the next wage round gets under way. In the first five months of the year, labour costs per unit of output in manufacturing industry remained almost unchanged, although

material costs did rise slightly. Industrial prices have been rising rather faster than labour and material costs (by over 1 per cent in the first half of the year), allowing profit margins to recover some of last year's losses—as is also suggested by the June FBI Inquiry which shows a significant increase in the small proportion of firms who consider that their profit margins have risen since the previous Inquiry. Outside manufacturing industry, labour costs per unit of output may have been rising appreciably.

**Chart 8. FBI Inquiry question: Are your average profit margins per unit of output up or down?<sup>(a)</sup>**

*Per cent of firms replying*



Source: FBI press releases.

(a) Compared with four months earlier.

### THE EXTERNAL POSITION

The British economic situation continues to be dominated by the serious overall deficit on the balance of payments. The strain resulting from the deficit of the overseas sterling area has been much reduced; indeed their sterling balances probably rose in the second quarter. On the other hand, private holders in non-sterling countries have been withdrawing short-term funds from London; and in the absence of large-scale support from European central banks under the Basle Agreements, the £164 million fall in the reserves in the first half of the year would have been considerably greater.

The current deficit of the United Kingdom balance of payments in the first quarter of 1961 was £56 million. This was a considerable improvement over the last two quarters of 1960, but still left the overall deficit (excluding unidentified transactions and the effects of the Ford sale) at roughly £150 million in a single quarter. In the second quarter of 1961, there was probably a further reduction in the current deficit, which was probably less than £25 million.



Table 4. United Kingdom balance of payments

£ million

	1960				1961	
	I	II	III	IV	I	II
Imports .. .. .	1,012	1,021	997	1,047	1,045	1,010
Exports .. .. .	966	941	858	946	987	985
Visible balance .. .. .	- 46	- 80	-139	-101	- 58	- 25
North American loan interest .. .. .	—	- 2	—	- 39	—	- 2
Other Government (net) .. .. .	- 75	- 67	- 70	- 75	- 85	
Other invisible (net) .. .. .	+ 84	+107	+ 61	+ 90	+ 87	
Identified current balance .. .. .	- 37	- 42	-148	-117	- 56	
Ford investment .. .. .	—	—	—	—	+131	
Other identified long-term capital .. .. .	- 39	- 72	- 46	- 44	- 96	
Overall balance .. .. .	- 76	-114	-194	-161	- 21	
Balancing item .. .. .	+101	+ 40	+124	+112	+ 50	
Overseas sterling holdings :						
Sterling area .. .. .	- 34	+ 4	- 97	- 97	- 37	
Other countries :						
Official .. .. .	+ 10	+ 52	+ 80	+ 32	+ 69	
Non-official : For Ford investment .. .. .	—	—	—	+131	-131	
Others .. .. .	+ 9	+ 66	+146	+ 78	- 69	
International organisations .. .. .	- 17	- 27	- 57	- 55	+ 4	
Acceptances (increase —) .. .. .	- 11	- 4	+ 19	+ 22	- 30	
Reserves (increase —) .. .. .	- 16	- 40	- 77	- 44	+ 75	+ 89
Other identified short-term capital .. .. .	+ 34	+ 23	+ 56	- 18	+ 90	

Source : HM Treasury, Bank of England, NIESR estimates.

## Exports

The main reason for the improvement in the current balance in the first quarter was the recovery in exports which took place between August and February. In the second quarter the monthly figures were distorted by the deliveries of ships in April and by a shift of exports from May to June owing to the dock strike. If exports of ships and aircraft are

excluded and the figures adjusted for the dock strikes and seasonality, there seems to have been a slight fall compared with the previous quarter, owing to the weakness of sterling area markets; but by the end of the quarter the trend was probably upward again.

In the three months, February-April (when comparisons were probably little affected by dock strikes) total exports were 1 per cent higher in value than the

Table 5. Exports by area, excluding ships and aircraft<sup>(a)</sup>

£ million, monthly average, seasonally adjusted

	1960				1961						
	I	II	III	IV <sup>(b)</sup>	I <sup>(b)</sup>	Jan. <sup>(b)</sup>	Feb.	Mar.	Apr.	May	June
North America .. .. .	53	44	39	41	37	37	40	34	34	34	
Western Europe .. .. .	83	83	83	88	91	89	93	90	89	88	
Eastern Europe .. .. .	6	7	7	6	7	5	8	8	9	9	
Overseas sterling area .. .. .	114	114	117	117	121	123	122	120	115	103	
Latin America .. .. .	12	13	13	13	13	13	14	12	14	12	
Other .. .. .	26	23	23	25	26	28	25	26	26	20	
Total, all areas .. .. .	295	285	282	291	296	294	302	292	286	268	323 <sup>(c)</sup>

Source : Trade and Navigation Accounts, Board of Trade Journal. For total exports, including ships and aircraft which are particularly volatile items, see Appendix table 17.

(a) The area distribution of the deduction for ships and aircraft is partly estimated.

(b) Adjusted approximately to exclude effects of the autumn dock strike.

(c) Estimated. The estimated figure for the second quarter of 1961 is 292.



Table 6. Exports of cars by Western European countries

	1959 Year		1st half		1960 III		IV <sup>(a)</sup>		1961 I <sup>(a)</sup>	
	'000	Per cent	'000	Per cent	'000	Per cent	'000	Per cent	'000	Per cent
United Kingdom .. .. .	569	27	364	29	116	27	90	18	85	18
France .. .. .	515	25	307	24	90	21	95	19	85	18
West Germany .. .. .	757	36	446	35	184	42	260	52	235	50
Italy .. .. .	217	10	120	9	36	8	45	9	55	12
Sweden .. .. .	44	2	29	2	10	2	10	2	10	2
Total .. .. .	2,102	100	1,266	100	436	100	500	100	470	100

Source: *The Motor Industry of Great Britain, 1960*; The Society of Motor Manufacturers and Traders Ltd., *Monthly Statistical Review, national trade statistics*.

(a) Partly estimated.

corresponding months a year earlier. Machinery (13 per cent rise) and chemicals (5 per cent rise) did relatively well. Textile and metal exports showed moderate declines, but the biggest deterioration was in car exports. These were down by 89 per cent to the United States and 30 per cent to other markets; the overall decline was 50 per cent.

The big fall in car exports since the early part of last year is not due solely to reduced demand for imported cars in overseas markets. West German manufacturers seem to have been able to raise their exports again and Britain's share in the total exports of Western European countries has fallen sharply (table 6). Germany now exports about as many cars as the other countries put together. The great success of Volkswagen has been a major factor, notably in the United States. Between 1959 and 1960, United States registrations of all imported cars fell by a fifth and registrations of British cars by a third. But Volkswagen registrations were up by a third, and they showed fresh gains in the first four months of 1961, while sales of the other main imported makes (Ford, Triumph, Austin-Healey, Renault, Simca, Opel and Fiat) all fell by something like a half.

Only to a limited extent is it possible to attribute the unsatisfactory export experience of United Kingdom industry as a whole to lack of capacity to produce. The main range of exports where capacity limitations may be holding back exports (and possibly also encouraging imports) is non-electrical machinery. In the other major categories of British exports, there are few indications that capacity shortages are a difficulty, although steel and chemicals were near full capacity until recently, and there may be some time lag in the response of their exports to better supply conditions. On the other hand, there is a wide range of exports, including electrical machinery, cars, textiles, non-ferrous metals, clothing and many

miscellaneous manufactures, where it is reasonable to assume that export sales could be much larger without any strain on capacity, if British prices were more competitive or if manufacturers improved their designs, service and selling effort. It is significant that half the firms replying to the FBI Inquiry on factors limiting their exports considered that prices would be an increasing source of difficulty in the next few months.

### Imports

After rising slightly in the first quarter, the volume of imports (seasonally adjusted) fell by 6 per cent in the second. The official import price index rose 2 per cent between the first quarter and May. This rise probably reflected the earlier rise in the NIESR index based on current market quotations; since March this index has been stable, so no further rise is likely to appear in the official figures in the immediate future. The fall in the value of imports in April/May was mainly the result of lower arrivals of materials for industrial use; imports of food and fuels also fell, but imports of finished manufactures remained unchanged. Imports of many individual categories of finished manufactures, notably machinery and clothing, continued to rise.

### Overseas economic conditions

#### *Overseas sterling area*

The sterling balances of the overseas sterling area fell by £37 million in the first quarter of 1961, reflecting a continuing payments deficit of several major sterling area countries. But even when seasonal factors are allowed for this was probably on a smaller scale than in the second half of 1960 and in the second quarter the payments position improved further and sterling



Table 7. Imports

£ million, quarterly averages or rates, seasonally adjusted

	1960		1961		Change Apr.-May over Oct.-March	
	Year	Oct.-Dec.	Jan.-March	Apr.-May	£mn.	Per cent
Food, beverages and tobacco .. .. .	387	407	376	363	-26	- 7
Industrial materials .. .. .	495	493	494	455	-38	- 8
<i>of which</i>						
Basic materials .. .. .	267	269	272	254	-16	- 6
Semi-manufactures .. .. .	228	224	222	201	-22	-10
Fuels .. .. .	120	126	136	117	-14	-11
Finished manufactures .. .. .	135	139	144	141	—	—
<b>Total (including miscellaneous) .. .. .</b>	<b>1,140</b>	<b>1,171</b>	<b>1,156</b>	<b>1,078</b>	<b>-85</b>	<b>- 7½</b>

Source : Trade and Navigation Accounts.

Table 8. Imports of finished manufactures

£ million, change over previous six months

	1959 1st half	1959 2nd half	1960 1st half	1960 2nd half	1961 1st half	Imports, 1961 1st half, £ million
Machinery .. .. .	+12	+ 7	+17	+11	+21	157.0
Road vehicles .. .. .	+ 5	+ 3	+10	-13	— <sup>(a)</sup>	12.0
Aircraft .. .. .	- 6	+ <sup>(a)</sup>	+12	+ 5	-13	7.6
Ships .. .. .	-10	+10	- 3	- 5	- 1	4.6
Metal manufactures .. .. .	—	+ 2	+ 2	+ 4	+ 1	17.7
Precision goods .. .. .	+ 1	+ 2	+ 3	+ 2	+ 3	21.8
Clothing, footwear .. .. .	+ 5	+ 2	+10	- 4	+ 9	35.7
Other .. .. .	+ 5	+ 8	+ 6	- 2	+ 3	39.0
<b>Total<sup>(b)</sup> .. .. .</b>	<b>+12</b>	<b>+35</b>	<b>+59</b>	<b>- 2</b>	<b>+23</b>	<b>295.4</b>

Source : Trade and Navigation Accounts.

(a) Less than £0.5 million.

(b) Divisions D/14-23 of Import List.

balances of the overseas sterling area countries probably rose substantially.

The reduction in the payments deficit has been particularly marked in *Australia*, where the measures to restrain domestic expenditure have been effective, and consumption and investment have both been reduced. Imports were falling up to June when they were about 20-25 per cent below the peak at the turn of the year while export earnings have been rising as a result of higher wool prices and sales of wheat to China. In the second quarter, Australia's sterling balances were reinforced by a £62½ million drawing on the IMF; the non-sterling element in this drawing (amounting to £52 million) helped to reinforce the United Kingdom's reserves. The private capital inflows may also have been unusually big. The improvement in the payments position has allowed a

relaxation of domestic restrictions and a recovery in imports may occur before the end of the year, though they may drop a little more before they start to rise.

The steady fall in *New Zealand's* sterling balances may now have been halted by a £20 million loan raised on the London markets. Exports, however, are still adversely affected by low prices for dairy products, and an announcement has been made of further administrative cuts in imports, intended to amount to about £50 million in the next year.

In April and May, *South Africa's* visible trade balance was slightly more favourable than at the same time last year, with imports a little lower and exports barely changed. Reserves fell fairly sharply again during April and May as a result of a resumption of the capital outflow, but in June this was stopped by administrative action, and the loss of reserves ceased.



The first half of the year is unfavourable for *India's* exports, and her reserves have fallen still further. For *Pakistan*, on the other hand, the early part of the year is the best, and as jute prices have been high, reserves have risen. There has also been a marked improvement in *Ceylon's* balance of visible trade, as a result of lower imports.

#### *Sterling balances of non-sterling countries*

In the first quarter, sterling balances of non-sterling countries remained unchanged (leaving aside the temporary effects of the Ford operation, which added to American sterling balances in December and reduced them again in the first quarter). Within the total, Western European holdings showed a rise, and all others fell. The £48 million rise in Western European holdings was the net effect of a rise of £83 million in official holdings and a £35 million fall in other holdings; probably the greater part of the rise in official holdings was the consequence of the initial weeks of the operations under the Basle Agreements, during the period following the German revaluation. It also seems possible that there is some element of window dressing in the abnormally large figure of a £90 million inflow of identified "other short-term capital". All this suggests that the true loss of reserves in the first quarter may have been very much higher than the £75 million recorded. In the second quarter, it is clear that there were substantial further withdrawals of privately-held funds from the United Kingdom, which may have been largely or wholly offset by increased foreign official holdings. It is not yet possible to judge how big these movements were. The magnitude of possible changes is indicated by the estimate of the Bank of England which was that the capital inflow in 1960 apart from the Ford deal was around £600 million, mainly into short-term assets; but far more than this is at risk since capital withdrawals in a period of uncertainty would not be limited to funds which had flowed in on an abnormal scale in the recent past.

#### *United Kingdom export prospects*

The main hopes for a recovery in exports in 1961 lie in the rapid recovery which is now taking place in the United States economy and the continued economic growth of Western Europe. For the rest of the year, import markets in primary producing countries are not likely to be more favourable than in the first half of 1961, although recovery is probable around the end of the year (notably in Australia) when these countries are likely to have restored a substantial part of their reserve losses and to be earning more as a result of a recovery in export prices.

In the *United States*, seasonally adjusted industrial production continued to rise. By June it was 8 per cent above the February trough and only 1 per cent below its previous peak of January 1960. A resumption of stock-building is likely to give a further stimulus to the recovery. Wholesalers' and manufacturers' stocks of non-durable goods are provisionally estimated to have risen in February, March and April. Stocks of durables continued to fall: however sales and new orders rose in May and stocks are likely to rise soon. A recent official prediction<sup>(1)</sup> is that gross national product will rise 8 per cent between the first quarter of 1961 and the first quarter of 1962. It had already risen nearly 3 per cent in the second quarter of 1961.

The recovery is unlikely to lead to any pressure on resources in the immediate future. Unemployment remained around the very high level of 6.8 per cent from February to June; the increase in output has been brought about with an increase in weekly hours worked and some rise in employment at a time when the labour force is also increasing. The Department of Labour price index remained stable in the first four months of the year—a continuing rise in the price of services offsetting a slight fall in the price of goods. The overall balance of payments deficit fell sharply in the first quarter largely because of a decline in the deficit on United States grants and net capital account: about two-thirds of this decline seems to have been due to the non-recurrence of special payments made in the fourth quarter. However, the merchandise trade surplus declined slightly between March and April: this trend is likely to continue if the expected resumption of stock-building leads to a sharp rise in imports. It is not clear whether this deterioration on current account will offset the improvement on capital account, but serious pressure on the United States balances of payments does not seem likely this year.

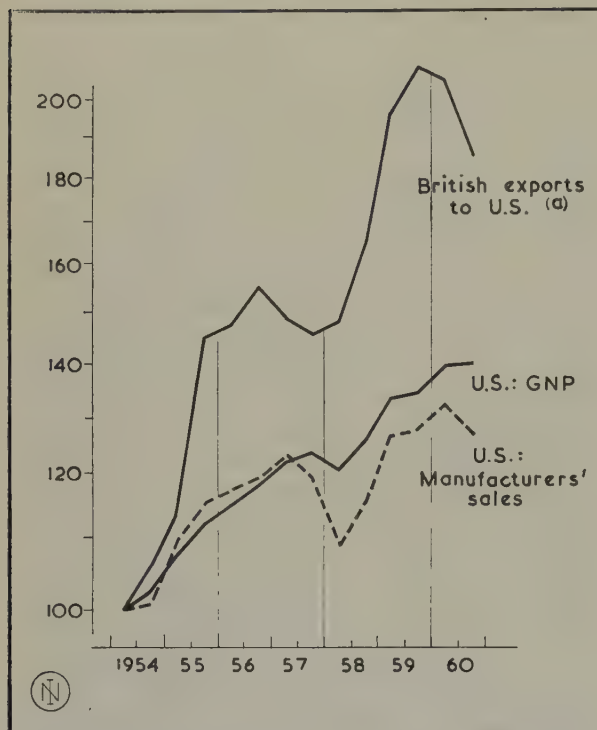
If United States gross national product increases at the rate predicted, which seems reasonable, the rise in her imports from the United Kingdom, which mainly consist of manufactured goods, should be a good deal faster. An 8 per cent rise in gross national product might result in sales of manufactures rising about twice as fast, since sales of manufactures fluctuate more in the trade cycle than national product as a whole. Past experience suggests that British exports to the United States (excluding cars, which have been disturbed by the competition of new American models) fluctuate in a manner broadly similar to total sales of manufactures, but rise much faster than total sales; in the past the increase has

<sup>(1)</sup>In a statement by Mr. Douglas Dillon of the US Treasury (*The Times*, 26 June 1961).



**Chart 9. United States : changes in output and imports<sup>(a)</sup> from the United Kingdom**

Ratio scale, index numbers, 1954 1st half = 100, current prices



Source : Survey of Current Business and Trade and Navigation Accounts.  
(a) Excluding cars and silver.

been about two and a half times as fast. A recovery of the magnitude expected could therefore lead to a very considerable increase in British exports to the United States.

A much smaller recovery in sales to *Canada* is likely, partly because domestic recovery there may be slower and partly because of the increased protection to Canadian domestic producers which is likely to result from the fall in the exchange value of the Canadian dollar. The net effect might still be a big rise in exports to North America by the end of the year ; they might be running at a monthly rate as much as £10 million higher than in the first or second quarters.

In *Western Europe* the latest figures suggest that there has been a significant pause in the growth in industrial output, which remained stable in the EEC countries as a whole from February to April. In Germany there are no clear indications that the revaluation in early March has been followed by any appreciable setback to exports or any sharp rise in imports. Although a return to a fairly rapid rate of growth still seems likely, 1961 may be a year of relatively slow expansion of output and income in the EEC. Tariff changes under the Common Market

arrangements are also likely to limit the opportunities for British exports to the Six. On the other hand, German revaluation should be bringing some benefit to the United Kingdom's competitive position. A return to a moderate upward trend in exports to Western Europe seems likely.

The improving prospects for exports to the industrial countries are likely to be largely offset by a continuation for some months yet of low levels of exports to sterling area and other primary producing markets. This suggests that total exports in the fourth quarter (after seasonal and other adjustments) might be 2-4 per cent above the first quarter ; by the first quarter of 1962, the increase could be substantially greater.

### United Kingdom payments prospects

Even though there is likely to be an appreciable recovery in exports in the second half of the year, it is still likely that the current account of the balance of payments will remain in substantial deficit for the rest of the year, because a recovery in domestic economic activity is likely to lead to a rise in the value of imports. In the second quarter, there was probably no abnormal stock-building of imported commodities, so that no further relief to the balance of payments is likely from reductions of imports. If expenditure and output continue to rise at the rate predicted above, seasonally adjusted imports by the end of the year might be 4-5 per cent greater in volume than in the second quarter ; this would bring the volume back to end-1960 levels. Since import prices are more likely to rise than to fall, in view of the fairly rapid expansion in activity in the industrial countries which seems likely to continue, the import bill at the end of the year may be somewhat higher than at the end of 1960.

The net effect is that, in the absence of restraint on domestic expenditure, the second half of the year would be unlikely to show much improvement in the underlying current deficit from the experience of the first half. Since the normal seasonal experience is that the payments position is about £100 million worse in the second half of the year than in the first, partly because of the incidence of the North American loan interest but mainly because of the pattern of visible and invisible trade, it could be expected that the current deficit in the second half of 1961 might be around £150 million. It is probable that the fairly rapid rise in exports which is likely by the end of the year could lead to a swing round to a small current surplus in the early part of 1962. This would, however, still leave a substantial overall deficit, and would not imply that the underlying weakness of the balance of payments had been corrected.



## THE CHANCELLOR'S MEASURES

The measures announced by the Chancellor of the Exchequer on 25 July are likely to moderate the rate of growth of consumption and investment demand ; if as a result of the uncertainty they induce they also lead to a sharp reduction in stock accumulation, the rise in output during the rest of the year would be negligible. In any case, they are likely to increase the margin of unutilised capacity. The immediate effect of his measures should be some further reduction of the current account deficit, in spite of the consequent rise in interest payments overseas ; the proposals for reducing Government expenditure and investment overseas should do something more to reduce the overall payments deficit next year. But unless exports rise very sharply, the measures are unlikely to solve the underlying foreign payments problem. It can be hoped that the rise in Bank Rate and the announcement of the intended drawing on the International Monetary Fund will stem the speculative flight from sterling.

### Domestic effects

The 10 per cent increase in most indirect tax rates could withdraw from consumers as much as the equivalent of over 1 per cent of their total expenditure (rather under £200 million a year) as well as having a slight effect on business investment, notably cars. In fact, however, the net yield to the Exchequer is likely to be less than this, since consumers will probably react by reducing the volume of their purchases of goods subject to increased taxation and by increasing their spending on other things. Restrictions of bank credit, due both to the rise in Bank Rate from 5 to 7 per cent and the increase in Special Deposits by 1 per cent may also reduce real consumer expenditure a little. The increased indirect taxes will raise the index of retail prices by about  $1\frac{1}{2}$  per cent more than it would have risen anyway ; this in itself is likely to increase wage claims and settlements. On the other hand, the reduced pressure of demand can be expected to reduce the rise of wages and salaries. These two opposing effects might just about offset each other, although the predominant effect may be that wages will rise a little more slowly than could otherwise have been expected. Thus consumers' disposable incomes in money terms might rise over the year to the first quarter of 1962 by slightly less than the 6 per cent expected in the absence of the new measures (page 9). The rise in real consumers' expenditure might be reduced by  $1\text{--}1\frac{1}{2}$  per cent below the  $2\frac{1}{2}\text{--}3\frac{1}{2}$  per cent forecast (page 5). This means that very slight increases are likely to occur in consumers'

expenditure between now and the early months of 1962.

The measures are unlikely to have any significant direct effect on investment by manufacturing industry. Before the measures were announced there were already signs that the boom might end next year. Nor does it seem likely that there will be any reduction of public investment in the near future except for housing. There may, however, be considerable effects on house building ; local authorities will probably cut back their programmes and the demand for private houses may be affected by a reduced flow of funds from the building societies resulting from higher short-term interest rates and from the suspension of the supply of Government money to the building societies under the House Purchase Act of 1959. The reduced pressure of demand for housing may in the first place merely lead to a reduction of the overload on the building industry, but it is also likely to make the building boom end rather earlier than it otherwise would have done. If the rise in Bank Rate substantially raises long-term interest rates, it might also reduce plans for new office and other commercial building. The net effect is to reinforce the likelihood that the investment boom will come to an end, probably in the first half of 1962.

If the measures had little effect on stock-building but led to some slight increase in exports, output might now rise by 2-3 per cent between the first quarters of 1961 to 1962, compared with the  $3\frac{1}{2}\text{--}4$  per cent predicted before the measures were announced. This would imply that the growth of output from now until early next year will be very slow—perhaps little more than 1 per cent. If stock-building were to cease, the rise in output might be negligible and if there were a period of stock reduction, output might stop rising altogether.

### External effects

The slower rate of growth of output should lead to a slower rise in imports ; the volume of imports may now rise by 2-3 per cent between the second and fourth quarters instead of 4-5 per cent as predicted on page 14. A rise in import prices still seems almost as likely as before, and the value of imports by the end of the year may approach that of the end of 1960, unless there is a sharp reduction in the rate of stock accumulation.

The restrictive measures have been taken at a time when United Kingdom export opportunities are beginning to improve, but the direct effect of the new policy on exports cannot be considerable. The



measures will mainly reduce demand for those consumer goods produced by industries which have had spare capacity for over a year, and will not reduce the pressure on those industries where capacity limitations are probably holding back exports.

The net effect of the measures on visible imports and exports might be to reduce the current deficit in the second half of the year by £30-£40 million as compared with the estimate on page 14. If stock-building ceases, the relief could be twice as big. On the other hand, the rise in Bank Rate could increase interest payments on the sterling balances by about £15 million in the half-year; a 2 per cent rise in Bank Rate increases the interest cost by about £30-£40 million a year. Thus the current deficit in the second half of the year could still be above £100 million. In the first half of 1962, the current surplus could be sufficient to offset most of the long-term capital outflow, at the time of the year when the current balance is normally favourable.

In the longer run, the effect of the Chancellor's proposals on the balance of payments will depend mainly on the outcome of the negotiations for assistance in the financing of overseas defence expenditure in NATO and on the degree to which controls are strengthened on capital exports to non-sterling countries. These are obvious methods of lightening the load on the balance of payments and if firmly pressed they could make a substantial difference. But they are unlikely to produce of themselves the solution to the balance of payments problem, which depends primarily on an increase in exports.

### Policy

The three major problems facing the British economy are of different degrees of urgency; generally speaking the most urgent are the least fundamental and the most important are the long-term problems. In the longer run, the major problem remains that of achieving a faster rise in output; a genuine attempt at joint forward planning by the Government and industry should be of real help. In the immediate future, the main problem is that of stopping speculation against the pound—but a reversal of speculative movements would in itself provide no more than a breathing spell. Almost equally urgent, is the need to achieve a satisfactory balance of payments situation. This will only be achieved when a substantial overall surplus is obtained in years when world conditions are favourable to British trade—as they are likely to be in 1962.

The Chancellor's measures are an attempt to find a way through immediate difficulties while at the same time coping with the more fundamental problems of

long-run growth and price stability. What comes of his proposals for some form of consultation with industry over long-term plans cannot be predicted. But his emphasis on the need for planning for long-term growth is wholly to be welcomed.

The broad result of his internal measures is to produce a moderate degree of disinflation. The domestic situation does not obviously call for measures designed to restrict demand. The overall capacity of the economy is not strained; it is rising almost as fast as demand was likely to rise during 1961 and the most buoyant element in demand, namely investment, shows signs of slackening off next year. But a large increase in exports, obtained by one means or another, is necessary to meet the balance of payments problem—and thus to support faster growth. Some deflation is a necessary condition for solution of the payments problem.

But the doubt remains whether it is a sufficient condition and whether, in the end, the necessary permanent improvement in the balance of payments can be got at present exchange rates or without some other very direct incentive to exports. The danger in relying on deflation alone to achieve a satisfactory balance of payments is that it may cause a new and lengthy period of stagnation of output. This might give a temporary appearance of solving the payments problem, but would lead to its revival once income and output recovered to more satisfactory levels. The test of the present policy is whether exports do in fact expand fast enough to maintain a reasonable growth of output and to achieve large overall surpluses in years when world conditions are favourable to British trade in order to offset the deficits in unfavourable years. It would be quite inadequate merely to achieve overall balance in the favourable years, particularly if they were also years when domestic activity was stagnating.

The Chancellor's long-term policy, designed to make British exports more competitive in world markets, appears to depend heavily on the attempt to hold back wage increases in the hope that prices will remain stable and that in time British exports will be more competitive. In the near future, it seems likely that the specific measures will not significantly reduce the rise of wages, because they involve a sharp rise in retail prices. Even if the policy as a whole should be more successful in the longer run and result in slower rises in money incomes, it is still an extremely lengthy and roundabout way of making British export prices more competitive; it involves, moreover, a deflation which is only too likely to lead to domestic stagnation and an unnecessary degree of under-utilisation of capacity.



# LABOUR SUPPLIES: TRENDS AND PROSPECTS

The unemployment and vacancy figures suggest that labour is scarcer than at any time since 1957<sup>(1)</sup>; and in June the FBI Inquiry showed a sharp increase in the number of employers who reported that they found labour more difficult to get than four months earlier (chart 1). This note looks at past and prospective trends in the supply of labour, in particular at the importance of the bulge in birth-rates after the war, the tendency for more women to join the labour force, and the significance of migration.

## Past trends

Between 1955 and 1960, employment<sup>(2)</sup> in the United Kingdom increased at an annual rate of slightly over  $\frac{1}{2}$  per cent a year (or 135 thousand), a total of 3 per cent over the whole 5 years (table 1). The rise in population of working age explains about half this increase; the remainder is partly accounted for by the reduction in the armed forces, and partly by the increase in the proportion of women who decided to look for work (table 2). Over the whole

*This note has been prepared by J. R. Shepherd of the National Institute of Economic and Social Research.*

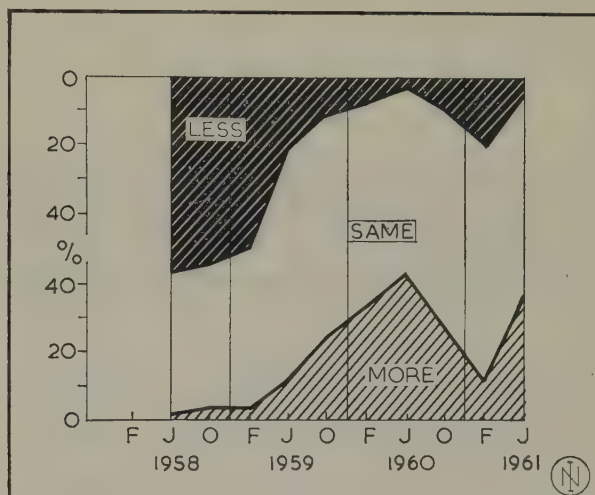
<sup>(1)</sup> Appendix table 6.

<sup>(2)</sup> Employment throughout this article refers to civil employment; the armed forces and the self-employed are excluded.

period, immigration and emigration were probably roughly in balance. The rise in employment was uneven; it was checked in the recession of 1958, and by 1960 it had approximately recovered to the 1955-57 trend.

**Chart 1. FBI Inquiry question : Do you find that the labour you want is more or less easy to get?<sup>(a)</sup>**

*Per cent of firms replying*



Source : FBI press releases.

(a) Compared with four months earlier.

**Table 1. Past and projected trends in employment<sup>(a)</sup> in the United Kingdom**

*At end-May of each year*

	Index numbers May '60 =100	Change over previous year, '000		A Low		B High	
				Index numbers May '60 =100	Change '000	Index numbers May '60 =100	Change '000
<b>Past</b>			<b>Projected</b>				
1955 ..	97.0		1962 ..	102.4	+280	103.1	+440
1956 ..	98.0	+233	1963 ..	103.2	+190	104.7	+350
1957 ..	98.5	+106	1964 ..	103.8	+140	105.7	+250
1958 ..	97.5	-212	1965 ..	104.5	+150	106.9	+260
1959 ..	97.9	+79					
1960 ..	100.0	+471					
1961 <sup>(b)</sup> ..	101.1	+250					
Average annual change 1955-60	+0.6 per cent	+135	Average annual change 1961-65	+0.8 per cent	+190	+1.5 per cent	+325

Source : As for table 2.

(a) Employment here refers to civil employment; the armed forces and the self-employed are excluded. The projections assume that unemployment remains at the same level as mid-June 1961.

(b) Estimates.



Table 2. Analysis of changes in past and projected employment figures for the United Kingdom

Annual average change in thousands, May of each year

	1955 to 1960	1960 to 1961 <sup>(c)</sup>	1961 to 1962		1962 to 1965		
			A Low	B High	A Low	B High	
Contribution to changes in employment of :							
Increase in population of working age <sup>(a)</sup>	+ 70	+ 70	+215		+120		
Change in unemployment	- 20	+ 35	—		—		
Decrease in armed forces	+ 60	+ 40	+ 40		+ 10		
Later school leaving	- 30	- 30	- 35		- 35		
Net immigration	+ 5	+ 70	+ 65	+100	+ 65	+100	
Other ' participation-rate ' <sup>(b)</sup> changes	+ 50	+ 65	—	+120	—	+ 90	
<i>of which</i>							
<i>Women aged 35-59</i>	+ 65	..	—	+ 70	—	+ 70	
Total change in employment	+135	+250	+285	+440	+160	+285	

Source : Population estimates and projections : Registrar-General, *Annual Statistical Review of England and Wales, Part II*, 1950 to 1959, and *Quarterly Return*, fourth quarter 1960 ; Registrar-General for Scotland, *Annual Reports*, 1950 to 1959 ; *Annual Abstract of Statistics*, 1960. Employment and unemployment : *Ministry of Labour Gazette*. Armed forces : *Ministry of Labour Gazette*, and *Report on Defence* 1961, Cmnd. 1288, February 1961. School-leavers : *Annual Abstract of Statistics*. Migration : Overseas Migration Board, *Sixth Report*, Cmnd. 1243, December 1960. *Hansard*, 23 March and 22 June 1961.

(a) This is the effect on employment of the increase in population of working age, derived by applying 1960 participation rates to 1955 population groups, and comparing with 1960.

(b) A participation rate is the proportion of the population in a particular age group who are employed or seeking employment. Changes in participation rates due to reductions in the armed forces and to later school-leaving are given separately in this table.

(c) Estimates.

The figures from May 1960 to May of this year are provisional estimates only. They show a rather bigger rise in the labour force than the 1955-1960 average. Most of the difference can probably be explained by the change in net immigration ; this may have added something like 70 thousand to the labour force during the year.

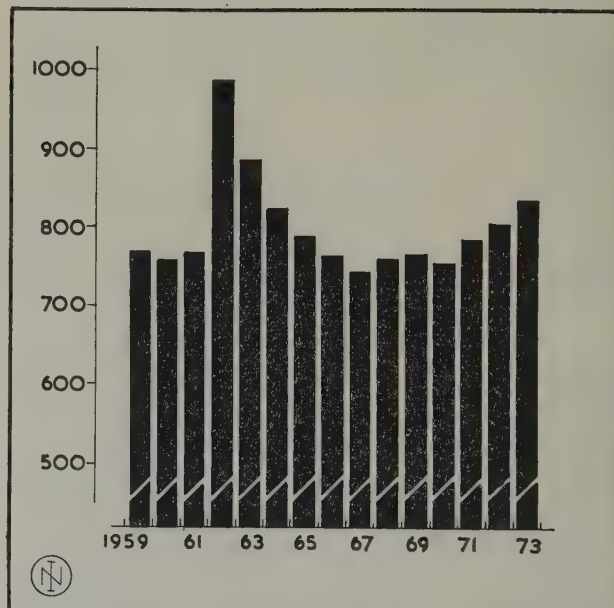
### Prospect

The labour force is virtually certain to rise much faster in the next few years. Indeed, the increase in Britain seems quite likely to be bigger than in the European Economic Community, where a rise of only about  $\frac{1}{2}$  per cent a year is expected from 1960 to 1965.<sup>(1)</sup> Alternative low and high estimates for Britain (tables 1 and 2, whose basis is discussed below) show annual increases of 0.8 per cent and 1.5 per cent a year respectively from 1961 to 1965 ; this compares with 0.6 per cent a year in the period 1955-60. There should be a particularly big increase in 1962, of 1 $\frac{1}{4}$ -2 per cent ; the increase in subsequent years will be smaller than this.

The main reason for the change is the bulge in the birth-rate after the second world war. In 1962 the number of fifteen year-olds will rise by over 200 thousand (chart 2). The calendar year comparison does not show the timing of the bulge exactly. The number of births went up sharply in the second quarter

Chart 2. The number of children in the United Kingdom reaching the age of 15, 1959 to 1973

Thousands



Source : *Annual Abstract of Statistics*. The figures are based on 1959 home population, adjusted for deaths but not for immigration.

of 1946,<sup>(2)</sup> so that the increase in the number of school-leavers will already have begun by the end of the summer term this year.

(<sup>2</sup>)The quarterly pattern of births in England and Wales from 1946 to 1948 was :

(<sup>1</sup>)European Economic Community : *General Statistical Bulletin*, no. 6, 1961. This calculation is based on participation rates, and takes no account of possible reductions in unemployment—in Italy, for example.

		Thousands			
		I	II	III	IV
1946	..	180	204	214	223
1947	..	240	234	214	193
1948	..	203	201	192	180



The immediate effect on the labour force will not be as great as 200 thousand, since only about two-thirds of the fifteen year-olds go straight into employment ; this proportion is falling slowly as more children stay on for the additional year of school. Both projections assume that the trend to a longer period of education will continue, and that something like an additional 35 thousand of the 15-19 age group will stay on at school each year (table 2).

Both forward estimates assume the same level of unemployment as in the middle of 1961 ; and the reduction in the armed forces has been projected according to the figure in the most recent Defence White Paper.<sup>(1)</sup> The difference between the high and low projections arises from different assumptions about immigration and about participation rates, particularly for women.<sup>(2)</sup>

### Participation rates

The main change in the past has been the rise in participation rates for women aged 35 and over (table 3), which provided an average addition of about 70 thousand a year to the labour force from 1955 to 1960. The figure was higher in years of high demand (it was 110 thousand in 1956) ; but in 1958 and 1959, when demand was lower, women's participation hardly

rose at all. If the demand for labour stays high, there seems no reason to suppose that these participation rates will stop rising ; in the higher of the two projections, therefore, it is assumed that the 1955-60 trend continues. In the lower projections, it is assumed that women's participation remains at the 1960 level.

Participation rates for groups other than women aged 35-60 have not changed much since 1951—except for the increased participation rates for men aged 15-34, which are explained by the reduction in the armed forces (table 3), and also a sharp fall between 1957 and 1959 in the proportion of men aged 65 and over who were at work. This fall is probably due to the fact that in July 1958 a large number of late-age entrants into the National Insurance pension scheme became entitled to pensions.

Outside these special groups, the participation rates for men aged 35-64 and women aged 20-34 were still slightly lower in 1960 than in 1957, the previous year of high demand for labour. It seems, therefore, that there is some scope for a rise in participation rates for other groups, as well as for women aged 35-60. For these other groups, therefore, the high projection assumes a once-and-for-all increase of about a half per cent in participation rates, to occur between 1960 and 1963. The low projection assumes no increase.

### Immigration

The forecasts of migration are necessarily tentative since the pattern has changed considerably. For the whole period 1955-60, inward and outward flows were roughly in balance. Up to 1957 the normal pattern

<sup>(1)</sup> *Report on Defence 1961*, Cmnd. 1288, February 1961. An estimate of total strength is given for 1962 ; subsequently the number of regulars is expected to be stable, but the total will fall with the disappearance of the remaining National Service men.

<sup>(2)</sup> A participation rate is the proportion of the population in a particular age-group who are employed or seeking employment.

Table 3. Participation rates in Great Britain

*Employees as a percentage of total population<sup>(a)</sup>*

	1951	1953	1955	1957	1958	1959	1960
<b>Males</b>							
15-19 .. .. .	62.9	60.6	65.6	67.8	69.5	71.1	73.4
20-34 .. .. .	84.6	84.5	85.8	86.4	86.2	86.4	87.7
35-49 .. .. .	86.9	86.9	86.4	87.6	87.7	87.8	86.5
50-64 .. .. .	81.9	82.4	83.6	84.7	84.3	83.6	83.9
65 and over .. ..	23.1	24.2	25.3	26.1	24.7	21.5	21.6
Total over 15 ..	75.4	75.3	76.3	77.2	77.1	76.6	76.9
<b>Females</b>							
15-19 .. .. .	77.6	78.0	78.5	77.1	74.7	73.6	75.2
20-34 .. .. .	48.2	47.1	49.0	48.7	47.8	47.5	48.1
35-49 .. .. .	37.3	38.1	40.9	42.4	42.4	43.0	44.1
50-59 .. .. .	30.6	32.5	34.9	37.7	38.2	38.4	39.7
60 and over .. ..	6.3	7.2	7.8	8.8	8.9	8.9	9.1
Total over 15 ..	35.4	35.6	37.1	37.7	37.3	37.3	38.1

Source : As for table 2.

(a) Employees include registered unemployed.



was of an outward net movement, but in 1958 and 1959 the Registrar-General estimated a total net inward movement of 45 thousand and 44 thousand respectively.

**Table 4. Estimated net inward migration from certain Commonwealth countries, 1956-61**

	Thousands					
	1956	1957	1958	1959	1960	Jan. to June 1961 Annual rate
West Indies	29.8	23.0	15.0	16.4	49.7	59.6
India	5.6	6.6	6.2	2.9	5.8	17.7
Pakistan	2.1	5.2	4.7	.9	2.5	15.7
Cyprus	2.8	1.5	2.7	.4	3.2	4.6
West Africa	2.0	2.2	1.0	.75	-.55	2.4

Source : *Hansard*, 23 March and 19 July 1961.

Since 1959, net immigration has undoubtedly risen, and a good deal of the increase has come from the West Indies, India and Pakistan (table 4). Net immigration from these countries rose by about 40 thousand in 1960, and—judging from the figures for the first six months—may well rise by about as much again this year. Provisional estimates for all countries suggest that the net inward flow may have been about 100 thousand in 1960; table 4 suggests that it will be higher again in 1961.

The age structure of most groups of immigrants is not known, but probably a relatively high proportion are of working age: on the other hand, there seem to be rather more women than men. On balance, their degree of participation in the labour force may well be considerably higher than for the population as a whole. The figures in table 2 assume that about two-thirds of the immigrants join the labour force.

The high projection assumes that from mid-1961 to mid-1962 net immigration will be about 150 thousand (adding about 100 thousand to the labour force), and that it will continue at about this rate up to 1965. On this assumption, immigration would be providing over one-third of the annual increase in the labour force for the period after 1962 when the effect of the bulge is over. The low projection is based on a net annual inflow of 100 thousand, adding about 65 thousand to the labour force. This is probably a rather lower rate than in the past year.

### Hours

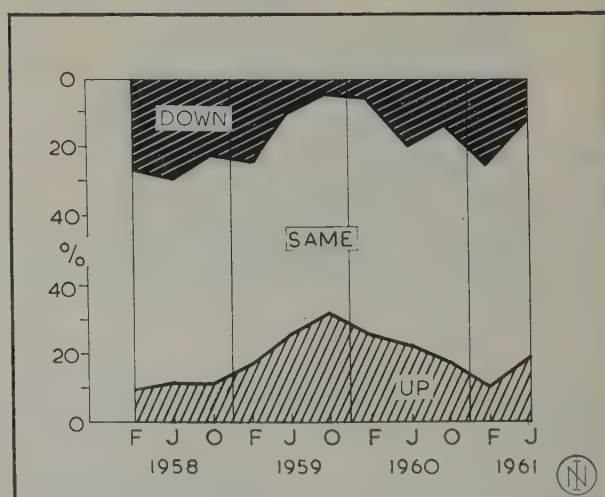
Changes in hours worked can be important: a variation of 2 hours in a working week is equivalent to a change in employment of 4 or 5 per cent. There has recently been a general reduction of about 2 hours

in the standard working week. The immediate adjustment in actual hours worked in manufacturing industry was considerably smaller than this; in the year ending October 1960 (by which time the standard working week had fallen by  $1\frac{1}{2}$  out of the 2 hours), the length of the actual working week had fallen by less than an hour. It was then about  $1\frac{1}{4}$  hours below the post-war peak of 1955, so that at the end of last year there was probably more overtime worked than at any other time since the war.

After the last series of reductions in the standard working week in 1946-47, which averaged about  $2\frac{1}{2}$  hours, the actual working week again fell somewhat less—by between 1 and  $1\frac{1}{2}$  hours. Hours remained stable at a lower level for about three years, but rose steadily between 1950 and 1955, and by 1955 the average week was about  $1\frac{1}{2}$  hours longer than before the cuts in standard hours.

It seems, therefore, that on the workers' side there is probably no obstacle to hours rising above their present level. But the additional cost of overtime working provides employers with a cost motive for replacing overtime working by additional labour if this is possible. This is one reason for the big increase in employment last year. Average hours worked may well have stopped falling; the FBI Inquiry suggests some change in trend in February<sup>(1)</sup> (chart 3). Forecasts of hours depend on trends in the scarcity of labour: if labour remains about as scarce as it is now, average hours worked may drift up a little, but probably not much.

**Chart 3. FBI Inquiry question: Are average weekly hours worked per operative up or down?<sup>(a)</sup>**



Source : FBI press releases.

(a) Compared with four months earlier.

<sup>(1)</sup> This is not confirmed by the Ministry of Labour overtime returns for May. But these are not wholly comparable in coverage with earlier figures, and also refer to Whit-week, in which conditions may be abnormal.



Table 5. Employment and unemployment : regional trends, 1950-60<sup>(a)</sup>

	Employment		Unemployment			
	Index numbers, 1950 = 100		Per cent of number of employees			
	1955	1960	1950	1955	1960	1961
United Kingdom .. .. .	104.2	107.5	1.5	1.1	1.5	1.3
Southern England <sup>(b)</sup> .. .. .	105.4	111.3	1.0	0.7	0.9	0.8
Midlands .. .. .	106.3	110.6	0.5	0.4	0.7	0.8
<b>Total, Midlands and South .. .. .</b>	<b>105.7</b>	<b>111.1</b>	<b>0.9</b>	<b>0.6</b>	<b>0.8</b>	<b>0.8</b>
Northern .. .. .	102.4	104.7	2.6	1.6	2.5	2.0
North-Western .. .. .	102.4	102.0	1.5	1.4	1.8	1.4
East and West Ridings .. .. .	101.8	103.7	0.9	0.7	1.0	0.8
Wales .. .. .	104.4	105.3	3.5	1.6	2.3	2.1
Scotland .. .. .	102.6	101.6	2.8	2.2	3.2	2.8
Northern Ireland .. .. .	99.2	101.8	5.5	6.8	6.1	6.9
<b>Total, North and West .. .. .</b>	<b>102.4</b>	<b>102.9</b>	<b>2.2</b>	<b>1.8</b>	<b>2.3</b>	<b>2.0</b>

Source : Ministry of Labour Gazette.

(a) Figures for employment are at end-May for each year ; for unemployment, at mid-June.

(b) London and South Eastern, Southern, Eastern, and South Western. The boundaries of the Southern and South Western regions were changed in 1959.

### Regional pattern

Throughout the last decade, the growth of employment has been concentrated in the Midlands and South of England (table 5). Here, employment rose over 10 per cent, whereas in the North-Western region, in Scotland, and in Northern Ireland, it went up only about 2 per cent.

Indeed, in the five years to 1960, employment outside the Midlands and South hardly rose at all. There were falls in Scotland and in the North-Western region ; but there was a small rise in Northern Ireland.

Inter-regional migration seems to have been about sufficient to keep up with this change in the pattern of job opportunities : it has not been big enough to reduce the regional differences in unemployment, which in 1960 were much the same as they had been ten years before, when the unemployment percentage for the country as a whole was the same as in 1960. The only significant difference between the regional patterns of unemployment in 1950 and 1960 was that in 1960 unemployment was slightly higher in the North-Western region, in Scotland and in Northern Ireland, and lower in Wales (table 5).

The relatively high demand for labour in the South and Midlands has led to a slightly faster increase in women's participation rates than in the North and West ; but the difference is small (table 6). Participation rates for women aged 35-64 in particular have risen throughout the country in the last decade, and

the rise is surprisingly even,—ranging between 7.4 per cent for the North-Western region to 8.9 per cent for the London, Southern and Eastern regions together. The changes have not been so uniform for younger women. Only in the London, Southern and Eastern regions and in Wales, has the participation rate risen throughout the period, and there have been falls of over 2 per cent in the North-Western region and over 4½ per cent in Scotland.

There are, of course, big differences between the regions in the extent to which women go out to work ; the spread between the regions has not altered much, nor has the ranking order. In the 35-64 age-groups, for instance, about one-fifth more of the women go out to work in the North-Western region than in Wales.

Factory building figures provide one indication of future trends in the regional demand for labour. These do not suggest that the trend will change. In the four years to December 1958, 59 per cent of total new factory space completed was in the Midlands and the South. Approvals in the two years up to March 1961 suggest that this pattern will continue ; approvals in the Midlands and South were 57 per cent of the total. There seems, therefore, no reason to expect much change in the tendency for employment in the Midlands and South to grow relatively fast. Partly because of this, there seems no reason to expect much change either in the regional pattern of unemployment or in that of women's participation rates.



Table 6. Participation of women : regional analysis, 1950-60

Per cent of age-group seeking employment

	15-34			35-64			65 and over		
	1950	1955	1960	1950	1955	1960	1950	1955	1960
London, Southern and Eastern .. ..	55.2	58.0	58.4	33.7	38.5	42.6	3.9	4.5	5.6
Midlands .. .. .	55.2	56.3	54.3	32.2	37.7	41.0	3.8	4.9	4.6
South Western .. .. .	46.6	48.1	47.3	23.7	27.8	31.7	3.1	2.9	2.8
<b>Total, Midlands and South .. ..</b>	<b>54.3</b>	<b>56.5</b>	<b>56.0</b>	<b>32.2</b>	<b>37.1</b>	<b>40.9</b>	<b>3.8</b>	<b>4.4</b>	<b>5.0</b>
Northern .. .. .	47.2	48.3	48.0	21.4	24.9	29.6	1.7	2.7	3.0
North Western .. .. .	61.7	62.5	59.4	36.3	41.6	43.7	3.7	4.3	5.1
East and West Ridings .. .. .	56.6	57.0	55.3	31.5	35.8	39.3	3.6	3.7	4.5
Wales .. .. .	41.2	43.0	43.1	17.2	21.6	25.0	1.9	1.8	2.2
Scotland <sup>(a)</sup> .. .. .	58.5	55.5	53.9	27.3	32.5	34.6	2.7	3.9	4.9
<b>Total, North and West<sup>(b)</sup> .. ..</b>	<b>55.3</b>	<b>55.3</b>	<b>53.6</b>	<b>29.0</b>	<b>33.7</b>	<b>36.8</b>	<b>3.0</b>	<b>3.6</b>	<b>4.4</b>

Source : As for table 2.

(a) 1959, not 1960, participation rates have been used for Scotland.

(b) Excluding Northern Ireland.

### Skilled labour

There are grounds for believing that the most immediate labour problem is that of scarcity of particular skills and not of labour in general. In the FBI Inquiry of June 1960 28 per cent of all respondents said that skilled labour would be an important factor limiting output in the coming 4 months : by June 1961 the proportion had risen to 34 per cent. In both cases only 11 per cent mentioned unskilled labour. It is difficult to assess just how great a limit on economic expansion this scarcity implies. There are no current figures, for instance, of the total number of skilled workers in employment.

The ratio of vacancies to unemployed for skilled labour since 1956 has been greater than five times the ratio for unskilled (table 7). But these figures do not

show any recent increase in the relative scarcity of skilled labour (chart 4) ; indeed this relative scarcity appears, if anything, to be slightly smaller than it was in 1957. The largest change since 1957 has been the doubling in the number of vacancies for unskilled labour.

The occupations in which the scarcity of skilled labour is most marked appear to be those which are normally entered by apprenticeship : carpenters, bricklayers, electricians, fitters, turners, and tool-setters, for example. In the last decade, the propor-

Chart 4. The ratio of vacancies to unemployment for skilled and unskilled men in Great Britain

Ratio scale : figures for March of each year

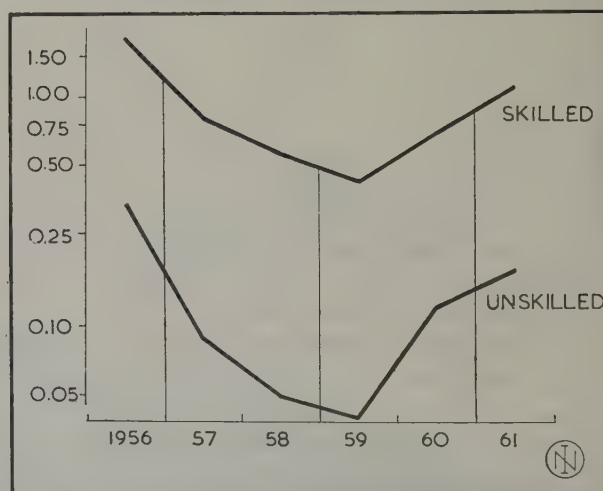


Table 7. Unemployment and vacancies for skilled and unskilled workers

Men aged 18 and over : thousands at mid-March of each year

	Wholly unemployed		Unfilled vacancies		Ratio, vacancies/unemployed	
	Skilled	Unskilled	Skilled	Unskilled	Skilled	Unskilled
1956 ..	67.6	85.9	122.7	29.9	1.81	.35
1957 ..	101.6	120.6	80.8	10.6	.80	.09
1958 ..	122.9	151.7	68.8	7.4	.56	.05
1959 ..	155.5	186.1	56.6	7.4	.36	.04
1960 ..	119.8	151.4	84.3	17.5	.70	.12
1961 ..	96.7	120.8	104.3	20.2	1.08	.17

Source : Ministry of Labour and Ministry of Labour Gazette.

Source : Ministry of Labour and Ministry of Labour Gazette.



tion of school leavers aged 15 to 17 who were apprenticed to skilled crafts has stayed much the same, at about a third. The actual number of boys entering apprenticeships has risen only about 10 per cent since 1950 while total employment in the metal, metal using and construction industries—the principal industries providing apprenticeships—has risen over 15 per cent. In shipbuilding and engineering the rise in the number of apprentices was from 1950 to 1957, and since then there seems to have been a fall. Comparatively few girls take apprenticeships : here the main change in the pattern of school-leaving has been the increase in the proportion taking clerical jobs. Since the figures in table 8 cover only those who

leave school at fifteen to seventeen, they slightly overstate the proportion of all school-leavers who go into unskilled occupations ; for the number staying on at school has been rising, and these will almost certainly take professional or clerical jobs.

The main conclusion of this analysis is that, in spite of the continued scarcity of skilled craftsmen, there seems to have been no adjustment in the last ten years to the intake of apprentices. Since most apprenticeships last about five years, the big increase in total labour force in the next few years—which will consist largely of fifteen year-olds, women, and unqualified immigrants—can do nothing immediately to meet these specific scarcities of skilled labour.

Table 8. Analysis of young persons entering employment aged 15-17

	1950	1953	1955	1957	1959	1960
<b>Boys</b>						
<i>Percentages :</i>						
Apprentices .. .. .	33.8	33.7	37.3	36.6	33.5	36.0
Professional and clerical .. ..	11.5	9.9	9.6	9.2	10.9	12.1
Other .. .. .	54.7	56.4	53.1	54.2	55.6	51.9
	100	100	100	100	100	100
<i>Thousands of apprentices</i>						
All industries .. .. .	92.3	94.4	96.7	95.2	98.7	103.0
of which						
Engineering and shipbuilding <sup>(a)</sup> ..	19.4 <sup>(b)</sup>	23.6 <sup>(b)</sup>	24.4	24.5	20.6	22.1
Construction .. .. .	20.8 <sup>(b)</sup>	21.2 <sup>(b)</sup>	20.9	18.8	22.0	22.3
<b>Girls</b>						
<i>Percentages :</i>						
Apprentices .. .. .	8.1	6.1	6.3	6.9	7.4	7.6
Professional and clerical .. ..	31.2	31.9	34.7	36.0	36.6	39.4
Other .. .. .	60.7	62.0	59.0	57.1	56.0	53.0
<b>Boys and Girls at school</b>						
<i>Per cent of total age-group :<sup>(c)</sup></i>						
Age 17 .. .. .	6.3 <sup>(d)</sup>	7.2 <sup>(d)</sup>	7.9 <sup>(d)</sup>	9.2	10.1	..
Aged 18 .. .. .	2.2 <sup>(d)</sup>	2.3 <sup>(d)</sup>	2.9 <sup>(d)</sup>	3.6	4.1	..

Source : Ministry of Labour Gazette.

(a) Owing to changes in the Standard Industrial Classification the figures in this group in 1959 and 1960 are not strictly comparable with the earlier years. But the changes are probably too small to account for the drop in the number of apprentices after 1957.

(b) Includes a small number training for professional qualifications.

(c) England and Wales only.

(d) Approximation based on five year age-group.



# ECONOMIC GROWTH: THE LAST HUNDRED YEARS

## Introduction

Since the war the economies of some developed countries appear to have been growing exceptionally fast (table 1, chart 1). From 1950 onwards six countries have shown growth rates of 3 to 6 per cent; four of these have shown rates of over 3 per cent since 1954, by which time the effects of post-war recovery might be expected to have been over. These rates are nearly all more than twice as high as the long-term averages of the countries concerned. Does this imply that they are some kind of spurt rates which will inevitably revert, sooner or later, to more 'normal' rates of growth?

This is one of the questions raised by a study of long-term growth rates; it leads on to others. Is there any sense in the concept of a normal rate of growth—either a general normal rate for all industrial countries or a specific normal rate for individual ones? Do the same countries show rapid rates of growth over long periods? Do all countries show rapid rates at certain stages of development? Are fast rates linked to population increases?

The amount of information available about growth rates in the last 50-100 years has increased considerably during recent years. This article collects the figures together, appraises them, and attempts to show what conclusions can and cannot be drawn from them. The countries studied include all the eight Western European nations for which adequate long-term series could be found, as well as the United States, Canada and Japan. No attempt has been made to include countries of the Eastern bloc; the problems of the measurement and comparability of their figures are a separate subject.

## The figures<sup>(1)</sup>

In most economic articles, any assessment of the figures can quite properly be relegated to a statistical appendix; but in a discussion of the rates of economic growth over a century the first question that springs to mind is whether the figures are sufficiently reliable and meaningful for any useful conclusions to be drawn. This must be discussed, at least in broad terms, before any comparisons are made.

In this article, the measure of growth used is the rate of increase in real national product per head of

**Table 1. Recent and long-term growth rates in national product per man-year**

<i>Annual per cent increases</i>						
			Long-term rate		1950- 1959	1954- 1959
			Starting year	Rate		
Japan .. ..	1880	2.9	6.1	7.6		
Italy .. ..	1863	1.2	4.7	3.8		
Germany .. ..	1853	1.5	4.5	3.6		
France .. ..	1855	1.5	3.6	3.3		
Netherlands .. ..	1900	1.1	3.4	2.9		
Norway .. ..	1865	1.6	3.1	2.5		
Sweden .. ..	1863	2.1	2.8	3.0		
United States .. ..	1871	2.0	2.2	2.2		
Canada .. ..	1872	1.7	2.0	1.8		
Denmark .. ..	1872	1.6	1.8	2.5		
United Kingdom .. ..	1857	1.2	1.7	1.6		

Source: Appendix III.

the employed labour force. For most countries, official currently-constructed national product series have only been in existence since the second world war, and estimates for the earlier period have been calculated retrospectively. These retrospective estimates depend on fewer series and have a larger margin of error than post-war figures; but the estimates in current prices appear moderately reliable over quite long periods. A much larger margin of error enters in when they are adjusted for price changes—as they must be before growth can be measured in real terms.

Even if full information were available, it would not be possible to construct one definitive series of national product estimates in constant prices; there is an inherent 'index number problem' that cannot be avoided. There is no unique measure of changes in prices: when the price movements of different goods diverge, the index obtained depends upon the year whose pattern of expenditure is used to provide the weights. In short periods, and periods when most prices move together, different weighting patterns produce fairly similar results. But the price indices linking pre- and post-war years, or spanning periods of rapid technological change, are likely to vary considerably according to the base year taken.

Tentative and indirect evidence suggests that a change from a series corrected by detailed price indices using initial year weights to one corrected by price indices using end-year weights might change the growth rate by 50 per cent or more over a period of, say, thirty years, including a major war. Such differences are seldom found in practice because the series used are usually amalgams of differently-

*This article was prepared by Miss D. C. Paige, together with F. T. Blackaby and Miss S. Freund, of the National Institute of Economic and Social Research.*

<sup>(1)</sup> Appendix II gives a fuller account of some of the problems of assessing reliability. Appendix III gives sources and methods, and a basic table of growth rates.



weighted component series, which can only be regarded as a rather inaccurate approximation to the mean of the two extremes.

For earlier periods these index number difficulties are outweighed by the problem of finding any price index which is at all appropriate. Usually the choice is between a wholesale price index and a cost-of-living index based on working-class expenditure patterns. Neither of them is really suitable for adjusting national income figures. The wholesale price indices tend to be little more than indices of primary product prices. The cost-of-living indices give a large weight to food and rent, and only a small weight to manufactured goods. Both indices may therefore overstate the price rise for the national product as a whole, since in parts of the nineteenth century the relative prices of manufactured goods fell sharply.<sup>(1)</sup>

Growth rates also need to be adjusted for population changes, and preferably for employment changes. (Ideally, they should be adjusted for hours of work, which fell considerably in the earlier period ; but there is not enough information to make complete estimates of average hours worked.) For many countries the employment series before 1938 are not satisfactory. Most of the estimates used in the inter-war period were obtained by calculating participation rates from the census years, applying these rates to population estimates for the years between the censuses, and then adjusting these figures by annual estimates of unemployment. For some countries these unemployment figures are based on trade union returns, and may therefore show too great a cyclical fluctuation ; thus some of the apparent fluctuations in output per man in Norway and Sweden may not be real.

Before 1913, since labour force estimates for many countries are unreliable, the increase in national product was divided by the increase in population of working age. These figures are a rather poor substitute for labour force figures ; but where separate labour force estimates exist, the average rate of increase in the population of working age was not very different from that in the labour force in the period up to 1913.<sup>(2)</sup>

#### Assessment

The margin of error in the figures, therefore, is a wide one ; and the further back the figures go, the wider the margin is. An estimate made for Norway<sup>(3)</sup>

suggests that the maximum margin of error in the national product figures since 1930 is  $\pm 3$  per cent ; in the figures for 1900-1930,  $\pm 7-8$  per cent ; and around 1865,  $\pm 20$  per cent.

There are, however, some reasons for confidence in the figures. From 1901 onwards, movements in national product can be compared with movements in industrial production.<sup>(4)</sup> This provides some independent check. Although they may share a number of common sources, the industrial production series are based mainly on physical quantities with value weights, and the national product series are value figures deflated by a price index ; the two series are therefore to some extent independent. Further in most of our countries they are, to a considerable extent, different ways of measuring the same thing ; for industrial production accounts directly for a substantial part of the national product, and a good deal of the remainder tends to move in line with it—items such as freight transport and distribution. The industrial production series do in fact tend to confirm the national product series. The direction and the turning points are nearly always the same, but—as might be expected—the industrial series show both steeper cyclical swings and a more rapid secular growth.

There is another reason for confidence. We have some knowledge of the relative level of real national income per head in the countries now. Annual percentage growth rates are a rather crude measure, in the sense that small changes will produce rather large differences in the total index over a long period. If then we use our growth rates to calculate the implied level in earlier periods (table 7, page 37) this should show up any growth rate which is palpably absurd. The comparisons in table 7 do produce moderately plausible results.

There is, however, some danger that the figures for all the countries may over- or under-estimate growth in particular periods. For since the figures for all countries are subject to the same sort of limitations, many of the errors may well be in the same direction. Consequently comparisons of relative rates of growth between countries may be more reliable than comparisons between periods.

#### Growth and population

It is the rise in output per man-year, much more than any increase in population, which has accounted for the increase in the national products of these countries over the last 50-100 years (table 2). In Sweden, for instance, the population increase explains only a quarter of the rise in output, and in France hardly any of it. Canada, the Netherlands and the

<sup>(1)</sup> See Appendix I, page 39.

<sup>(2)</sup> See table 12, page 45.

<sup>(3)</sup> Jul Bjerke, *Some Aspects of Long-term Economic Growth of Norway since 1865*, paper presented to the 6th European Conference of the International Association for Research in Income and Wealth, August 1959.

<sup>(4)</sup> See Appendix I, page 40.



Chart 1. The rise in total product in eleven countries

Ratio scale

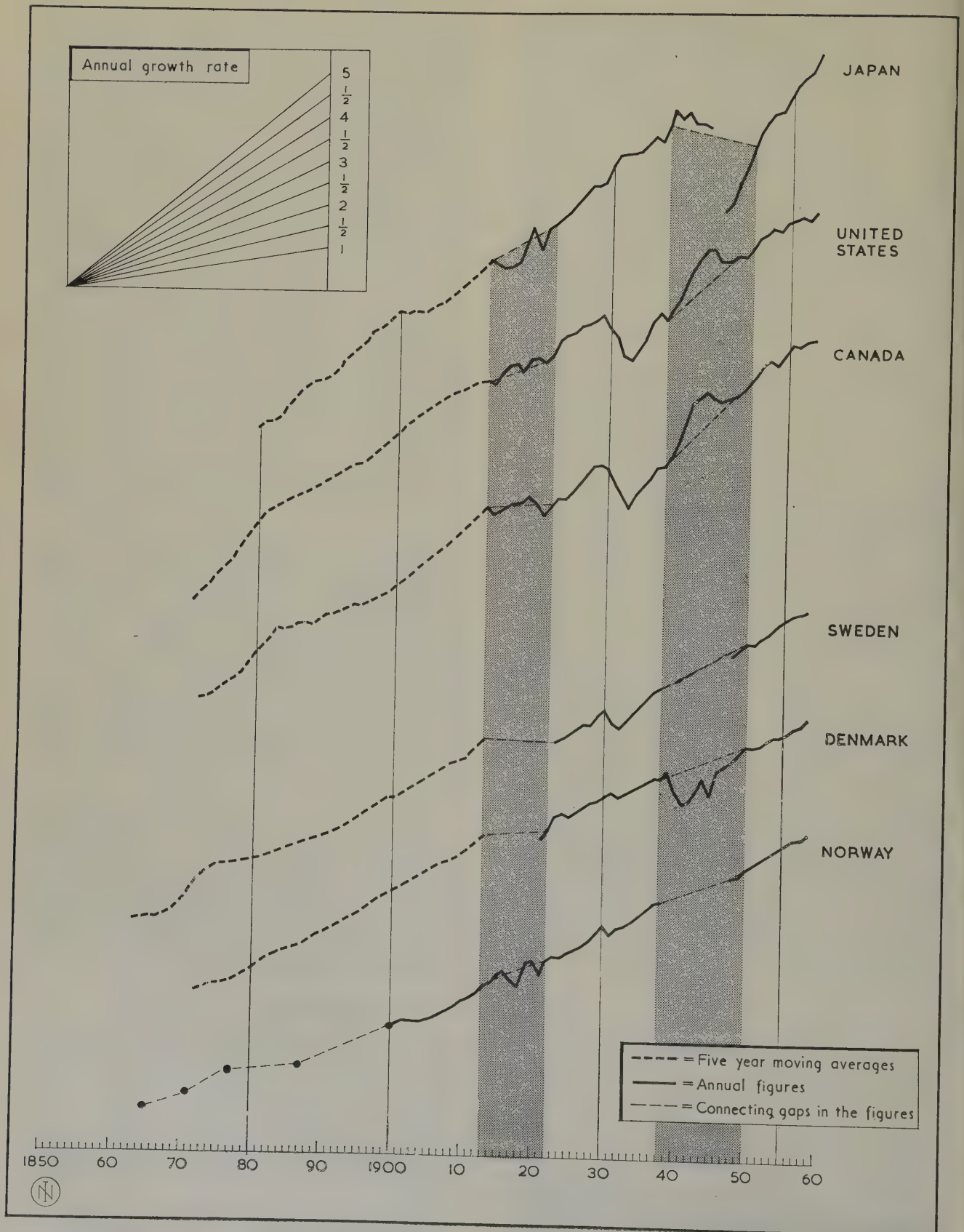


Chart 1 (cont.). The rise in total product in eleven countries

Ratio scale

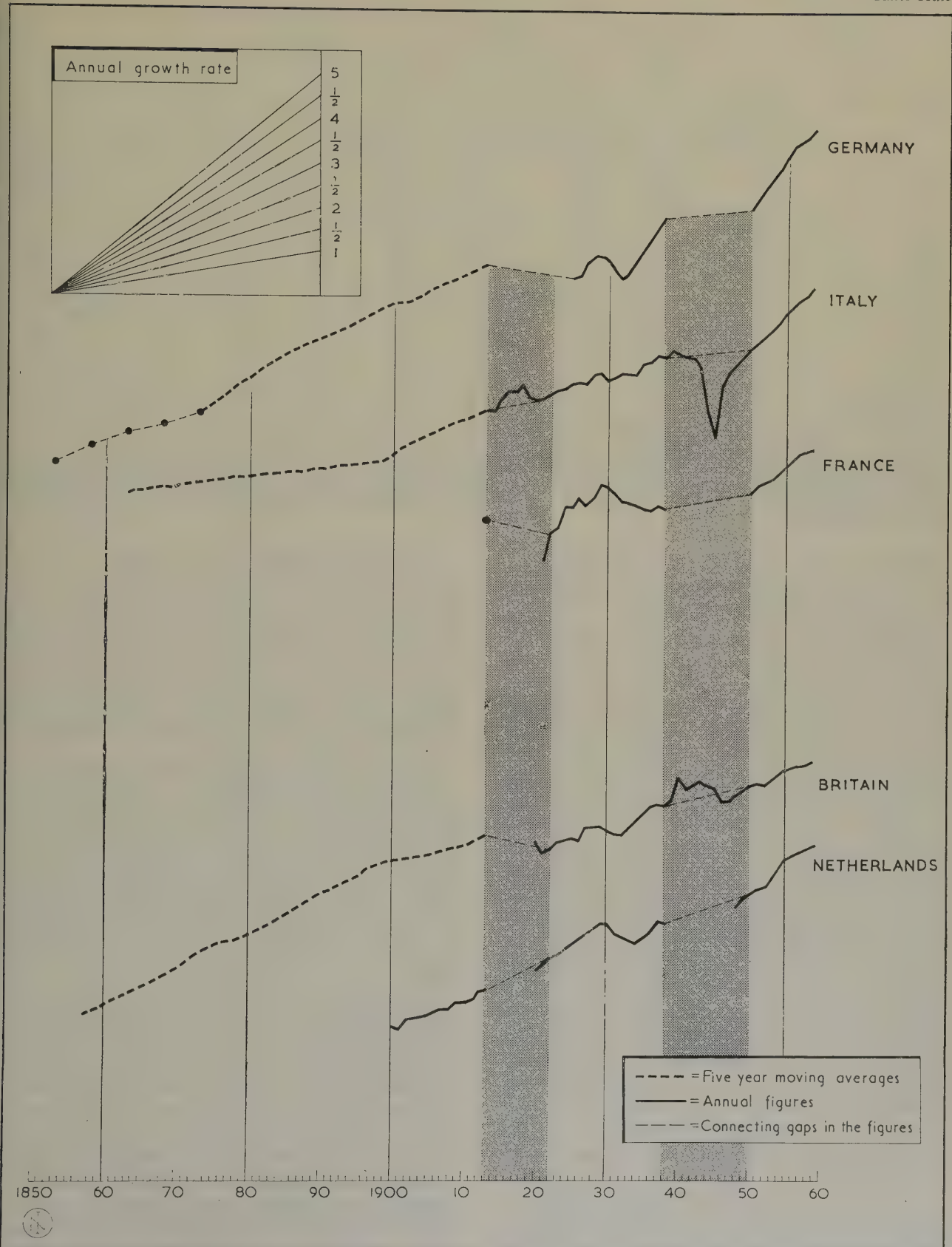




Table 2. Rates of growth of working-age population and national product per man-year

	Starting year	Ranking in total period			Annual per cent increases						
					Total period			Up to 1913		1913-1959	
		Product per man-year	Working-age population	Total product	Product per man-year	Working-age population	Total product	Product per man-year	Working-age population	Product per man-year	Working-age population
Japan .. .. .	1880	1	4	1	2.9	1.2	4.0	3.4	0.9	2.6	1.4
Sweden .. .. .	1863	2	10	4	2.1	0.7	2.8	2.4	0.7	1.7	0.8
United States ..	1871	3	2	2	2.0	1.7	3.8	2.2	2.3	1.8	1.2
Canada .. .. .	1872	4	1	3	1.7	1.8	3.5	1.9	2.1	1.5	1.6
Denmark .. .. .	1872	5	6	5	1.6	1.0	2.6	2.1	1.1	1.2	1.0
Norway .. .. .	1865	6	7	8	1.6	0.9	2.5	1.3	0.8	1.9	1.0
France .. .. .	1855	7	11	11	1.5	0.1	1.5	1.5	0.1	1.5	0.1
Germany .. .. .	1853	8	5	7	1.5	1.1	2.5	1.5	1.1	1.4	1.1
Italy .. .. .	1863	9	8	10	1.2	0.8	1.8	0.7	0.6	1.7	0.9
United Kingdom ..	1857	10	9	9	1.2	0.7	2.0	1.6	1.0	0.8	0.5
Netherlands .. ..	1900	11	3	6	1.1	1.4	2.5	0.7	1.5	1.3	1.4

Source : Appendix III.

Note : In this table, changes in the working-age population are shown throughout. However, from 1913 onwards product per man-year is obtained by dividing the national product not by the working-age population but by the employed population (page 25). For this reason, both for the period 1913-1959 and for the whole period, the changes in population and in product per man-year do not exactly make up the change in the total product. But the differences are very small.

United States are exceptions ; here the population rise was important and explains about half the increase in total production.

Further, there is not much evidence to support the commonly-held belief that a stable population is an important obstacle to growth. Kuznets found, from a comparison of the figures for nineteen countries, that there was no clear-cut association between rates of population growth and product per head of total population.<sup>(1)</sup> The present study also shows only a tentative and inconclusive association between rate of growth of output per head and that of population of working age ; neither over the whole period nor in either sub-period before or after 1913 is there any significant correlation. It is true that the two immigrant countries, the United States and Canada, show both rapid population rises and also high rates of economic growth. But it is Japan, ranking fourth in growth of working population, and Sweden, ranking tenth, which are at the top of the list of productivity increases. The United Kingdom, France and Italy rank low in the rate of growth both of population of working age and of production per man year ; but the Netherlands, which had the most rapid population growth of the non-immigrant countries, also had the slowest growth of total product per man-year.

If we look at the changes in the rates for separate countries between the periods before and after 1913, there is a slight and tentative suggestion that a slowing down in economic growth goes with a slowing down in the rise in population, and vice versa. But it does not follow that it was the change in population growth which influenced economic growth ; it could as well have been the other way round, or the association may have been accidental.

Six countries have slower rates of economic growth after 1913 than they did before it ; and of these, three—Canada, the United States and Britain—also show a significant decline in the rate of population growth. But for two of them, the United States and Canada, it may well be that the change in the trend of immigration was partly influenced by the fact that their economies were growing more slowly for other reasons.

France had a virtually stationary population and about the same rate of growth in both periods. Of the three remaining countries, Norway and Italy had higher rates of growth after 1913 than before it ; so did Japan, up till 1941. In all three, the population also rose faster after 1913. Norway and Italy do not appear to have started sustained economic growth until nearly the end of the 19th century and Japan started from an extremely low level. It is certainly possible that population increases stimulated growth in these countries ; it is also possible that improvement of very low living standards stimulated population increase through a reduction of the death rate.

<sup>(1)</sup>See S. Kuznets, 'Levels and Variability of Rates of growth', *Economic Development and Cultural Change*, vol. 5, no. 1, October 1956. Kuznets found small positive correlations for various periods and groups of countries, but only one (comparing only the seven larger countries) was significantly different from zero at a 5 per cent probability level.

Table 3. Rates of growth in national product per man-year, 1913-1959, peacetime and wartime experience

Annual per cent increases

	Total period 1913- 1959	Peace-time			War-time average	Ranking		
		1922- 1938	1950- 1959	Peace-time average		Total period	Peace average	War average
Japan .. .. .	2.6	4.4	6.1	5.0	- 0.1	1	1	9
Norway .. .. .	1.9	2.6	3.1	2.8	0.9	2	4	3
United States .. .. .	1.8	1.1	2.2	1.5	2.2	3	10	1
Italy .. .. .	1.7	1.7	4.7	2.8	0.5	4	3	7
Sweden .. .. .	1.7	2.7 <sup>(a)</sup>	2.8	2.7	0.6	5	5	6
Canada .. .. .	1.5	0.6	2.0	1.1	1.9	6	11	2
France .. .. .	1.5	1.8	3.6	2.4	0.3	7	6	8
Germany .. .. .	1.4	3.3 <sup>(b)</sup>	4.5	3.8	- 0.8	8	2	11
Netherlands .. .. .	1.3	0.8	3.4	1.7	0.7	9	7	5
Denmark .. .. .	1.2	1.5	1.8	1.6	0.7	10	8	4
United Kingdom .. .. .	0.8	1.5	1.7	1.6	- 0.2	11	9	10

Source : Appendix III.

Note : Both on account of breaks in the figures, and in order to exclude the period of starting up again after the wars, the 'wartime' rates have been taken as covering the years 1913 to 1922 and 1938 to 1950. For Sweden, the first world war period is taken as 1913 to 1923, and for Germany 1913 to 1925—that is, after the hyper-inflation which checked production of both goods and services and statistics. Owing to the major difficulty of establishing price links between pre-war and post-war periods for countries with major currency upsets (the Japanese price index for 1950 is 24,170 with 1934 = 100, and Germany emerges from both war periods with a quite new currency), there is a considerably wider margin of error in the wartime average than in the peacetime periods and the rates shown should only be taken as giving the general direction and magnitude of the change. The margin of error in the wartime changes may in some countries be sufficient to affect the 1913-59 average significantly, although its weight in this average is probably not sufficient to change the order of magnitude seriously.

(a) 1923-38.

(b) 1925-38.

This analysis does not exclude the possibility that a rapid rise in population may stimulate output per man in certain circumstances ; but it certainly does not suggest that this has been a major determining factor in the last hundred years. There is absolutely no indication that it is a necessary condition of economic growth ; some of the fastest growing countries have had relatively stable populations.

### Growth through cataclysms : 1913-1959

Since 1913 normal economic development has been drastically affected by three cataclysms—the two world wars and the great depression. It has been suggested that some kind of normal growth rate runs through such major disturbances, and that there is 'a general principle observed in the figures for all countries, for all recoveries from wars and other major upheavals. Growth is naturally much more rapid than usual until the country gets back on its trend line, after which the normal rate of growth is resumed.'<sup>(1)</sup> Of this there is little evidence. Our series do suggest that growth is especially fast during the recovery period following a major interruption, but that, at least during the twentieth century, countries have never fully made up the ground they lost as a result of the cataclysms.

Consequently the average growth rates of the period since 1913 are not of much use. If we were concerned only with explanations of the past we

might claim with Kuznets that 'these "abnormal" events may be part and parcel of the process of economic growth within national units in the world organised as it was during the last two centuries ; and that to exclude them from coverage limits in advance the kind of economic growth that is to be studied.'<sup>(2)</sup> But in studying economic growth in order to speculate about the future it is obviously not very reasonable to expect a repetition of the great depression ; nor is it sensible to assume that—if there is another world war—its economic effects would be some sort of statistical average of the effects of the last two. It is not helpful to incorporate into the answers to hypothetical questions about the future the same number and kind of cataclysms as occurred in an arbitrarily-chosen period of the past.

For the different experience of the various countries in the two world wars and the great depression thoroughly distorted their growth rates. Canada and the United States show higher rates of growth in the combined war period than they do in peacetime. Norway, Sweden, Denmark, Italy and the Netherlands all show some net growth in the two world wars, but at rates ranging from less than a quarter to about a half of their peacetime average. The other four countries show either very slow growth rates or actual falls in output for the war periods together (table 3 and chart 2).

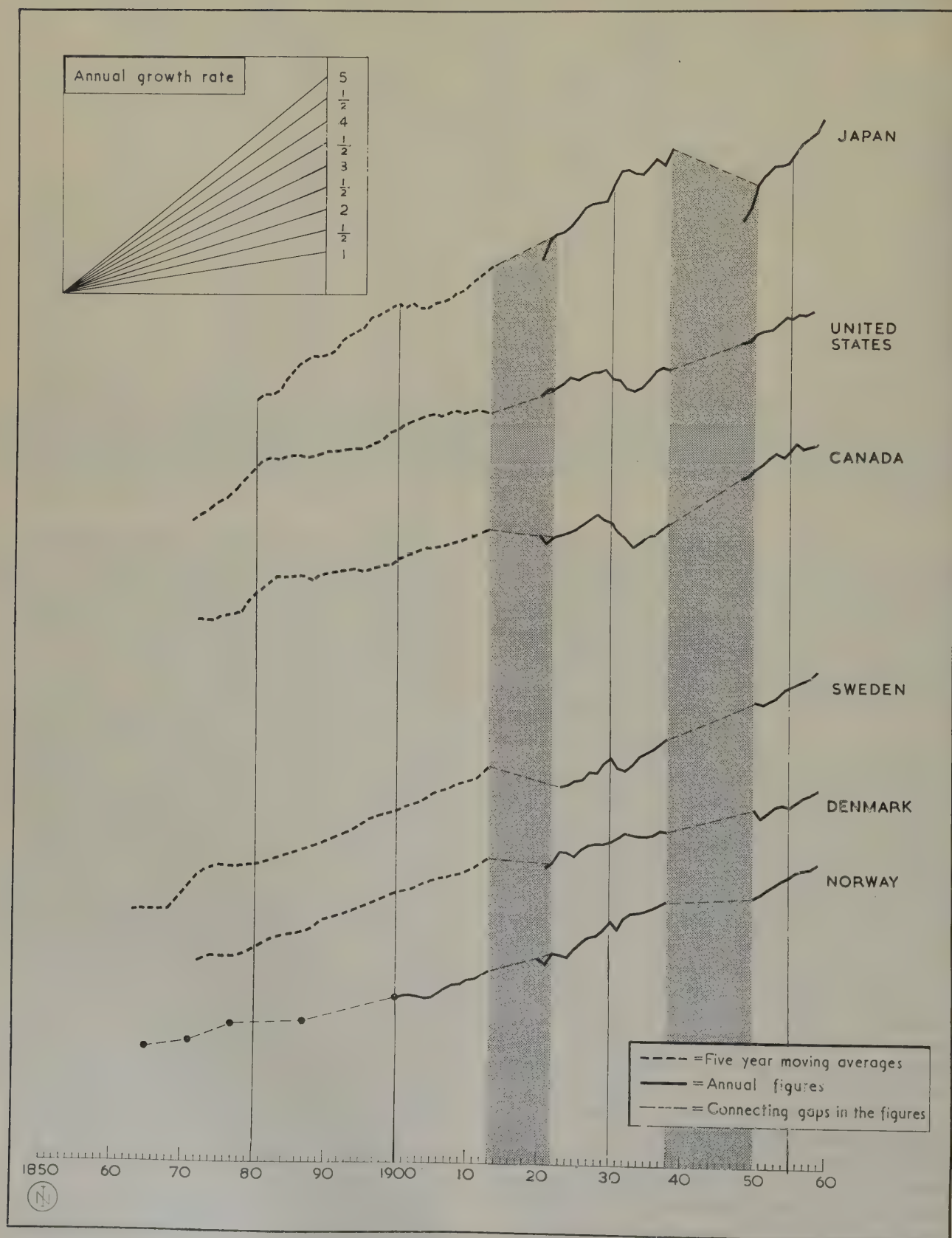
<sup>(2)</sup>S. Kuznets, 'Levels and Variability of Rates of growth', *Economic Development and Cultural Change*, vol. 5, no. 1, October 1956.

<sup>(1)</sup>Colin Clark, *Financial Times*, 8 June 1960.



Chart 2. The rise in product per man-year in eleven countries

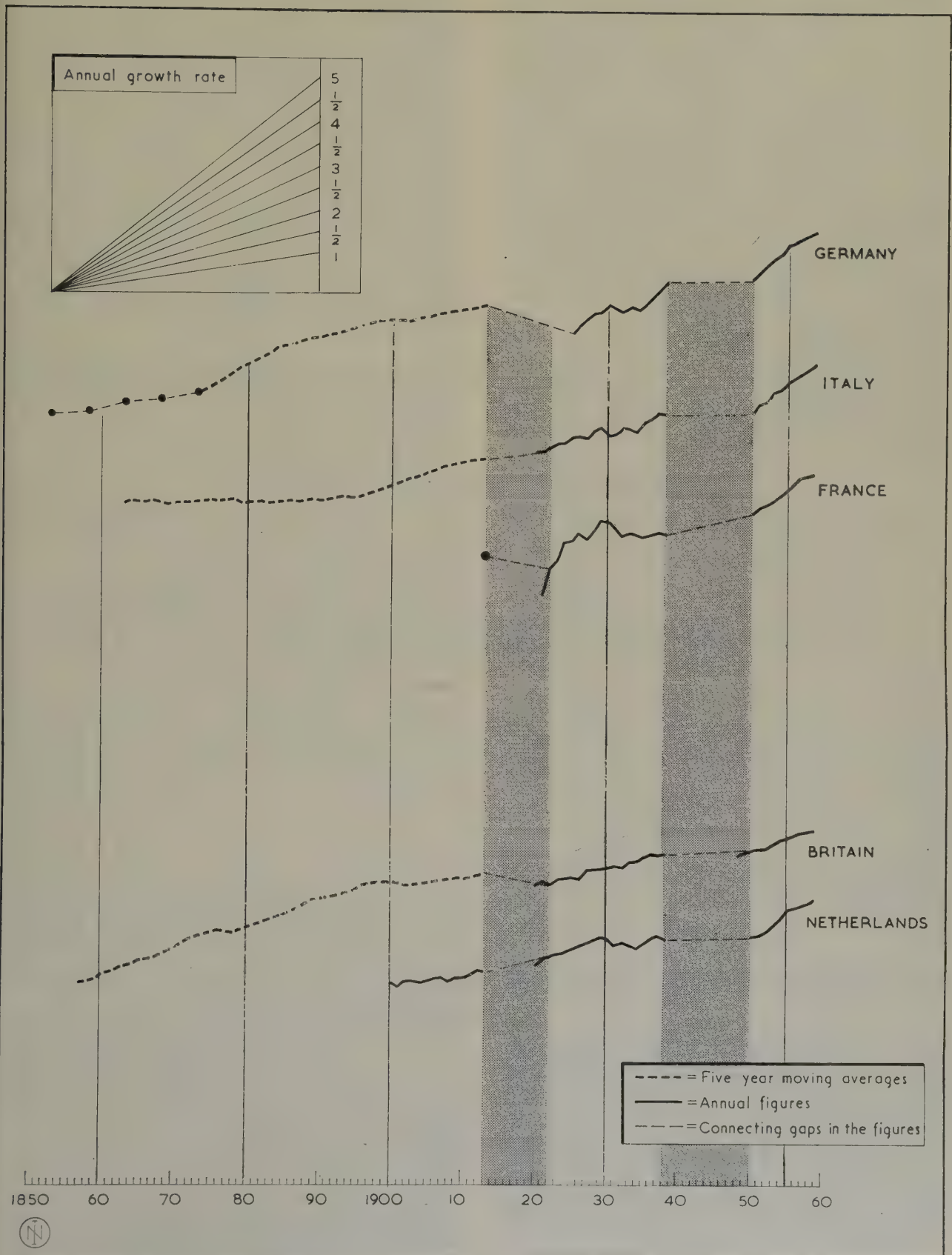
Ratio scale



Source : Appendix III.

Chart 2 (cont.). The rise in product per man-year in eleven countries

Ratio scale





The effect of these wartime variations is such that neither the long-term rates of growth including the wars, nor the peacetime rates excluding them, can be regarded in any sense as normal. For if we regard the rates over the whole period as normal, it must be because we believe that in peacetime countries made up for their losses in wartime. If this were so, countries whose output fell sharply during the wars would show particularly rapid peacetime rates of growth: there would be a strong negative correlation between wartime and peacetime experience. Alternatively, if we believe that the peacetime average gives normal growth rates, this must mean that we believe that the peacetime rates were not affected by wartime experience: the correlation between peacetime and wartime rates should tend to zero.

Our results suggest, tentatively, something between these two hypotheses: that the nations particularly hard hit in the war may have caught up to some extent in peacetime, but not completely. There is, in fact, a negative rank correlation<sup>(1)</sup> of  $-0.6$  between the

peacetime and wartime growth rates. Much of this correlation is accounted for by the fact that Canada and the United States, the two countries that grew faster in wartime than peacetime, had the slowest peacetime rates of growth. Among the nine countries whose wartime rates were lower than their peacetime rates, there is no significant correlation between wartime and peacetime ranks.<sup>(2)</sup> This, then, is the main evidence for some element of 'catching-up' in peacetime rates of growth: that all the nine countries which had a marked loss of growth in wartime grew faster in peacetime than the United States and Canada. But the catching-up was by no means complete: among the nine countries themselves, there is little evidence that those particularly hard hit by the war did particularly well in peacetime.

<sup>(1)</sup> A rank correlation is a measure of the correlation between the ranking or order (as opposed to the actual values) of two series of numbers. In this article the Spearman coefficient was used throughout.

<sup>(2)</sup> The rank correlation is  $-0.27$ .

Table 4. Growth rates and the depression: 1922-1938

Annual per cent increases

	Total period 1922 <sup>(a)</sup> -1938		Before and after 1929 <sup>(b)</sup>				Depression and recovery			<i>Period of depression</i>
			1922 <sup>(a)</sup> -1929 <sup>(b)</sup>		1929 <sup>(b)</sup> -1937 <sup>(c)</sup>		Depres- sion : total product, trough as per cent of previous peak	Trough of depression to 1937 <sup>(c)</sup>		
	Total product	Product per man- year	Total product	Product per man- year	Total product	Product per man- year		Total product	Product per man- year	
Japan .. ..	5.2	4.4	6.5	5.9	3.6	2.4	no fall	4.8	3.7	1931-1933
Germany .. ..	4.0	3.3	5.7	6.0	2.8	2.1	84	8.8	3.5	1928-1932
Sweden .. ..	3.1	2.7	3.9	3.3	2.3	1.9	87	6.3	4.6	1930-1932
Norway .. ..	3.2	2.6	3.9	3.1	2.5	2.0	92	4.3	3.4	1930-1931
France .. ..	1.4	1.8	5.8	5.8	— 2.1	— 1.3	82	(d)	(d)	1929-1936
Italy .. ..	1.9	1.7	2.3	2.2	1.9	1.6	95	3.0	2.7	1929-1930
Denmark .. ..	2.8	1.5	3.6	2.1	2.0	1.1	98	2.8	0.4	1931-1932
United Kingdom	2.3	1.5	2.7	1.6	2.3	1.6	94	4.9	2.2	1929-1932
United States ..	1.8	1.1	4.8	2.1	0.1	0.4	70	9.7	4.9	1929-1933
Netherlands ..	1.8	0.8	4.0	2.0	0.2	0.3	88	5.0	3.4	1929-1934
Canada .. ..	2.1	0.6	5.1	2.1	— 0.3	— 0.9	71	8.4	3.9	1929-1933

Source: Appendix III. (a) From 1925 for Germany and from 1923 for Sweden. (b) Or year of onset of depression if other than 1929. (c) 1938 for Japan. (d) No recovery until 1936.

Note 2. The rankings of the countries are as follows:

	Product per man-year			Total product	
	1922(a)- 1938	1922(a)- 1929(b)	Trough of depression- to 1937(c)	Depres- sion	Trough of depression- to 1937(c)
Japan .. ..	1	2	4	1	7
Germany .. ..	2	1	5	8	2
Sweden .. ..	3	4	2	7	4
Norway .. ..	4	5	6	5	8
France .. ..	5	3	(d)	9	(d)
Italy .. ..	6	6	8	3	9
Denmark .. ..	7	9	10	2	10
United Kingdom	8	11	9	4	6
United States ..	9	7	1	11	1
Netherlands ..	10	10	6	6	5
Canada .. ..	11	8	3	10	3

For the significance of the footnotes, see main table.

Note 1. The table gives changes in total product as well as product per man-year; and it measures the depth of the depression in terms of the fall in total product only. This is because errors in the unemployment series—which over long periods are not very important—can make a good deal of difference to the calculation of changes in output per man-year in the depression and in the short periods before and after it. In some countries the fall in total output appears to have been accompanied by a relatively small fall in employment and a rather sharp decline in output per man-year. In others the decline in employment was such that output per man-year continued to rise, and in one or two cases the employment series results in a lag between the periods of decline and recovery of total product and of output per man-year. We cannot tell how far these varying patterns reflect genuine differences in reaction to the slump, and how far they are due to weaknesses in the unemployment figures (Appendix II). Moreover for Japan, Italy and France it was not possible to make any adjustment for unemployment, so that their series are not fully comparable with the rest. Turning points in total product have, therefore, been taken to measure the beginning and end of the depression.

The analysis of the effects of the great depression suggests similar results (table 4)—that there was some catching up afterwards, but that it was not complete : consequently the period spanning the depression, from about 1929 to 1937,<sup>(1)</sup> cannot be regarded as normal either. First, by 1937 or 1938 most countries had by no means regained the trend indicated by their growth rates up to 1929 ; 1929-1937 rates were relatively low for most countries, and very low indeed for some. The ground lost in the great depression was in general not made up. Further, there is some tendency, though not a strong one, for the countries worst hit by the depression to show relatively low growth rates over the whole inter-war period.<sup>(2)</sup> The two countries whose output dropped most in the depression—Canada and the United States—rank seventh and ninth respectively in their inter-war growth rates.

But, although recovery from the depression was clearly not complete, there were some very strong recovery effects : it was, on the whole, the countries whose output had fallen most sharply in the recession which showed the most rapid rates of rise after 1932<sup>(3)</sup> (chart 1). So there is no question of using the period 1932-1937 as in any way a normal period : it was dominated by the after-effects of the depression.

To sum up then : the experience of the period 1913-1959 shows the varying effects of the three major cataclysms on the growth rates of different countries. It can tell us very little about normal growth rates. There were two short periods of rapid growth before and after the depression ; but the post-depression period contained a large element of temporary recovery. Out of the inter-war years therefore, we are left with one short period of fairly rapid growth between 1922 and 1929 which might possibly be regarded as normal.

(1) As growth was again interrupted in a number of countries by the recession in 1938, the post-depression period has been taken only up to 1937 for all countries except Japan. Two alternative definitions of national income for Japan produce different movements between 1937 and 1938. The movement over the whole period from 1933 until 1938 appears, however, to be moderately well established.

(2) If countries are ranked first according to the severity of their fall in output during the depression, with those least affected at the top, and secondly according to their growth rates over the whole inter-war period, there is a rank correlation of +0.5 between the two series.

(3) If countries are first ranked according to the severity of their fall in output during the depression, with those least affected at the top, and secondly according to the rate at which their total output rose from the trough of the depression up to 1937, there is a strong negative correlation of -0.9. This high correlation might suggest a higher degree of catch-up in recovery from depression than in recovery from war. But this is probably due almost entirely to the fact that a four to five year recovery period is included within each wartime period (since the wartime periods are taken as 1913-1922 and 1938-1950). Growth rates after the depression, however, were measured from the bottom of the trough.

### The period before 1913

Since the period after 1913 is so disturbed, if we are to find any historical experience which might be relevant for future growth rates we must look at the period before the first world war. Here the problems of comparison are most acute. Not only is the margin of error in the figures much higher (page 25), but we are looking at a different kind of world, with many of our countries still in an early stage of industrialisation. Do the rates of economic growth found in these circumstances have any relevance to present conditions ? And if so, are they appropriately measured by today's national accounting conventions ?

Fortunately we do not need to try to compare the level of production of 1870 with that in 1960, when we would have the problem of comparing worlds with radically different products : hansom cabs and oil-lamps as against taxis and electricity. Rather we are comparing the rate of growth between, say, 1870 and 1880 with that between 1950 and 1960, and the problems of the introduction of new commodities and techniques are much smaller. In every period growth is affected by the rate of innovation, and it is true that the earlier period was for many countries one of particularly rapid technological change ; but this has also been true of the nineteen-fifties.

In one respect, however, nineteenth century economic growth does differ substantially from that of later periods. Part of total economic growth is explained by changes in the distribution of the labour force, in particular the shift from low-paid occupations such as agriculture and domestic service to higher-paid occupations in industry. This shift was very important in the nineteenth century and for some countries in the first quarter of the twentieth century ; by the end of the second world war it had almost come to an end in most of our countries, except Japan. For even where some shift was still taking place, the effect on the growth of national product was smaller, as income differentials between the sectors had narrowed significantly.<sup>(4)</sup> For most of the countries we do not have enough information to separate out that part of the total productivity increase which can be attributed to labour force shifts. There are, however, some figures for the United States : it has been estimated that, since 1910, about one-eighth to one-quarter of the total long-term increase in productivity was due to such shifts.<sup>(5)</sup>

Growth rates calculated from these early series may be too high because the share of sectors which are declining, or growing more slowly than the rest,

(4) See Simon Kuznets, *Six Lectures on Economic Growth*, (Illinois, 1959), page 53, where it is established that income differentials are narrower in developed than in underdeveloped countries.

(5) See Appendix I, page 39.



is underestimated. This is likely because there is much more information about the industrial, rapidly-expanding sectors than about the agricultural and handicraft sectors. The use of modern national accounting conventions can also lead to overestimates of growth in these earlier periods. National accounting figures in general include only market transactions. In less developed countries more needs are satisfied within the family. Consequently there is a difficulty when we calculate changes over time in output per head of population of working age. Throughout, family workers are included in the population, but their non-market product may be excluded from national output. Over a period, therefore, when the share of the non-market product in the total was falling, the increase in output per head is overestimated.

Other accounting conventions also probably lead to some overestimate of the benefits of industrialisation. For instance, the food produced and consumed on the farms is generally given an imputed value at producers' prices. The same quantity and quality of food is given a higher value when, in the process of urbanisation, it is purchased from the shops. A similar overestimate in national product results from the fact that city populations have to use much more

transport than small town or village populations to get to and from their work.<sup>(1)</sup>

These are the qualifications to bear in mind in considering the figures in tables 5 and 6. The averages for the whole period before 1913 must be treated cautiously, because they cover very different periods for different countries—periods ranging from thirty to sixty years. But it is not sensible—as it is for 1913-1959—to compare common chronological sub-periods for these countries; for whereas from 1913 onwards two world wars and a great depression dominated the economic trend in all the countries considered here, before 1913 each country's economic

<sup>(1)</sup>It can be argued that this sort of difficulty, though it may lead to an overestimate of the standard of living, does not lead to an overestimate of productivity: the workers in transport and distribution are certainly producing more services. But it is also arguable that their services should be considered not as final products, but as intermediate products—analogueous to the higher internal costs of transport in a large factory compared to the costs in a small one. There is a similar difficulty in the convention of treating all Government expenditure on goods and services as final output. In fact, part of the large increase in Government expenditure—such items as the increase in the size of the Board of Trade and the Ministry of Food and Agriculture—should properly be regarded as intermediate production, because its main purpose is to facilitate the output of other goods and services. But this particular difficulty is probably present as much in the twentieth century as in the nineteenth.

Table 5. Rapid growth rates of national product per man-year before 1913<sup>(a)</sup>

Annual per cent increases

	Long-term average growth rate, to 1913		Fastest 8-year periods of growth		Periods <sup>(b)</sup> during which growth exceeded			
	Starting-year	Rate	Period	Rate	2½ per cent a year		3 per cent a year	
					Period	No. of years	Period	No. of years
Japan .. .. .	1880	3.4	1891-99	4.7	1880-1911	31	1880-1911	31
Sweden .. .. .	1863	2.4	1880-88	4.5				
			1886-74	4.6	1866-98	32	1863-75	12
			1890-98	2.9	1900-11	11	1891-98	7
United States .. .. .	1871	2.2	1900-08	2.8			1903-08	5
			1872-80	5.2	1871-1907	36	1871-89	18
			1896-1904	3.1			1896-1905	9
Denmark .. .. .	1872	2.1	1877-85	2.4	1877-84	7	1878-82	4
			1888-96	2.4	1887-93	6	1887-90	3
					1895-99	4		
Canada .. .. .	1872	1.9	1875-83	4.1	1874-90	16	1874-86	12
			1895-1903	2.2	1899-1904	5		
United Kingdom .. .. .	1857	1.6	1867-75	2.7	1859-73	14	1867-73	6
			1881-89	2.5	1881-89	8		
Germany .. .. .	1853	1.5	1874-82	3.5	1873-93	20	1873-86	13
			1882-90	2.0				
Norway <sup>(a)</sup> .. .. .	1865	1.3	1905-13	2.7	1905-13	8	1909-13	4
			1871-77	2.4 <sup>(c)</sup>				
Italy .. .. .	1863	0.7	1897-1905	2.3	1898-1902	4	—	—
					1904-07	3		

Source: See Appendix III.

(a) The long-term rate is calculated up to the year 1913. All other dates refer to the centre of five year averages; for instance, 1911 = 1909-13. For Norway, however, the rates are calculated from single years.

(b) Of three years or more.

(c) As the series only covers selected years, only a six year period is available.

development was largely determined by its domestic circumstances. For instance, the United Kingdom and Sweden, which had been the fastest growing countries in the late 'sixties and early 'seventies, were stagnating in the late 'seventies; this was the time when Germany and the United States were growing very fast indeed—Germany after the achievement of political unity and the United States after the American Civil War. Or again, from 1898 to 1913 Britain and Germany were both growing slowly; but it was a prosperous period of rapid economic growth for some of the other countries (chart 1).

Nor is it possible to isolate with any certainty periods in the history of each country at which they could be said to be in the same stage of economic development. By the middle of the nineteenth century the United Kingdom and France had left their pre-industrial patterns of economic activity far behind. Our series for Germany and Italy are long enough to show a clear change of trend: Germany immediately after attaining political unity and Italy a good deal later. (For these two countries it is probably useful to exclude the earlier, more slowly growing period.) For the other countries there is tentative evidence that some of our series start around the first period of intensive industrialisation.<sup>(1)</sup> Some of these countries, however, seem to have entered the phase of industrialisation with a short period of very rapid growth, and others much more gradually.

The periods which it does seem useful to isolate, from pre-1913 experience, are the fastest growing periods in each country—since a number of our questions are concerned with rapid rates of growth. Table 5 sets out for each country the two or three eight-year periods of most rapid growth before 1913; it also shows for how long at a stretch the various countries did in fact exceed growth rates of  $2\frac{1}{2}$  and 3 per cent.

## Conclusions

The amount we can learn from past growth rates that is relevant to prediction about the future is limited. Our tools of measurement are crude, both because of conceptual limitations and because our figures on actual movements are still, in spite of recent improvement, subject to a wide margin of error. Most of the lessons of this study are negative—in that they suggest that some of the simple relationships that have been put forward do not hold good.

There is little evidence of a direct connection between the increase in output per man and the increase in population; and where there is an association it may be that it is the rise in the standard of

living which explains the rise in population rather than the other way round. In any case, a rise in population is clearly not an essential condition of economic growth; some of the fastest growing countries have had relatively slow population growth.

There is no convincing evidence of any constancy or normality in the international pattern of growth rates (table 6); almost any hypothesis of constancy which one tries on the figures gets a negative answer—with the one exception that Japan, in almost any period one selects, comes at the top of the table. Apart from Japan, there is no connection between the ranking of countries before and after 1913; this remains true whether or not the German and Italian figures are adjusted by excluding their early periods of slow growth. Nor is there any correlation between those countries which had the fastest spurts in the nineteenth century and those which have grown fastest since the second world war. There is some constancy in ranking if we compare 1922-1929 with either 1950-1959 or 1954-1959.<sup>(2)</sup> The sensible explanation of this may be that in both periods the same group of countries were making rather delayed recoveries from the severe damage caused by war.

It is not safe to say—on the basis of a single comparison of pre-1913 and post-1913 averages—that growth rates are slowing down secularly. For although it is true that the post-1913 averages are lower, this can perfectly well be explained by the three cataclysms in the twentieth century. It is true that since 1950 it is the richest nations which have shown the slowest growth (table 1): this might suggest that, after a certain point, the transfer of working population from the manufacturing sector to the service sector could have a slowing down effect.<sup>(3)</sup> But it is far too soon, on the basis of nine years' figures, to be certain about this.

Nor can we classify countries into one group which normally grows fast and one group which normally grows slowly. Nearly all countries—again, except Japan—have had fairly long periods of both rapid growth and slow growth. At one time or another, every country except two has grown for eight years or more at a rate faster than 3 per cent a year; one of the exceptions—Britain—reached 2.7 per cent for the eight years before 1875, and 3 per cent for six of them.

These apparently negative conclusions are, in a way, encouraging: there is no suggestion of any long-term historical inevitability about growth rates. Countries which for a long time had ranked low in the list have succeeded in changing their ranking. For instance, if this article had been written ten years ago, it might have been tempting to conclude that Italy could not

<sup>(1)</sup> For a number of countries our series start very near the time identified by Rostow as 'take-off'. See W. W. Rostow, *Stages of Economic Growth*, Cambridge University Press, 1960.

<sup>(2)</sup> The rank correlation between 1922-1929 and 1950-1959 is +0.7; between 1922-1929 and 1954-1959 it is +0.8.

<sup>(3)</sup> See Appendix I, page 41.



Table 6. Comparisons of growth rates of national product per man-year

	1950-1959	1954-1959	1922 <sup>(a)</sup> - 1929 <sup>(b)</sup>	Fastest 8 years before 1913	Pre-1913 average	Post-1913 average
A. Annual per cent increases						
Japan .. .. .	6.1	7.6	5.9	4.7	3.4	2.6
Italy .. .. .	4.7	3.8	2.2	2.3	0.7	1.7
Germany .. .. .	4.5	3.6	6.0	3.5	1.5	1.4
France .. .. .	3.6	3.3	5.8	..	1.5	1.5
Netherlands .. .. .	3.4	2.9	2.0	(c)	(c)	1.3
Norway .. .. .	3.1	2.5	3.1	2.7	1.3	1.9
Sweden .. .. .	2.8	3.0	3.3	4.6	2.4	1.7
United States .. .. .	2.2	2.2	2.1	5.2	2.2	1.8
Canada .. .. .	2.0	1.8	2.1	4.1	1.9	1.5
Denmark .. .. .	1.8	2.5	2.1	2.4	2.1	1.2
United Kingdom .. .. .	1.7	1.6	1.6	2.7	1.6	0.8
B. Ranking						
Japan .. .. .	1	1	2	2	1	1
Italy .. .. .	2	2	6	9	10	4
Germany .. .. .	3	3	1	5	7	8
France .. .. .	4	4	3	..	8	7
Netherlands .. .. .	5	6	10	(c)	(c)	(c)
Norway .. .. .	6	7	5	6	9	2
Sweden .. .. .	7	5	4	3	2	5
United States .. .. .	8	9	7	1	3	3
Canada .. .. .	9	10	8	4	5	6
Denmark .. .. .	10	8	9	8	4	9
United Kingdom .. .. .	11	11	11	7	6	10

Source : Appendix III.

(a) From 1925 for Germany, and from 1923 for Sweden.

(b) Or the onset of the depression (table 4).

(c) Omitted because pre-1913 figures only cover thirteen years.

grow fast : before the second world war, she had never reached  $2\frac{1}{2}$  per cent a year for more than four years at a time<sup>(1)</sup>. Since 1950 she has ranked second, with an average growth rate of over  $4\frac{1}{2}$  per cent for nine years. The countries which have ranked low since 1950 have all had long periods in which they grew faster. Britain, for instance, enjoyed a continuous period of about forty-five years from 1857 in which her average growth rate was above that of 1950-1959 ; and the United States exceeded her post-war growth rate for forty years together.

Japan appears to be the one exception to the rule that there are no obvious rules ; she is the country that has consistently grown faster than the others through nearly all the period. This may be due to a substantial extent to the fact that, in an economy starting from a very low level, the necessity of competing in foreign markets led to a higher degree of concentration of investment and the development of a small but relatively productive modern manufacturing sector, which, owing to the particular social and

institutional pattern, has continued to develop side by side with very much less productive domestic manufacture and agriculture.<sup>(2)</sup> Consequently productivity gains have been made on a much larger scale than in other countries by the transfer of workers to more productive sectors, as well as by rising productivity in each sector.<sup>(3)</sup> This process of transfer is still incomplete, and consequently rapid increases in productivity are still to be expected.<sup>(4)</sup> The Japanese long-run plan is for a growth rate in real national product per head of population of 6.9 per cent a year from 1956-58 to 1970.<sup>(5)</sup> They expect that the proportion of the labour force engaged in agriculture and

<sup>(2)</sup> Kiyoshi Kojima, 'Capital Accumulation and the Course of Industrialisation, with Special Reference to Japan', *Economic Journal*, December 1960.

<sup>(3)</sup> The upward bias to the figures which derives from the exclusion of the non-market product and from the underestimate of some slowly-growing sectors (page 34) probably affects the Japanese figures more than those of the other countries.

<sup>(4)</sup> Since, however, we expect these high rates to be due largely to an extension of the most productive sector, it does not follow that Japanese productivity within the modern factory sector will increase more rapidly than that of other countries.

<sup>(5)</sup> *New Long-range Economic Plan for Japan*, Economic Planning Agency, published by Japan Times, Tokyo 1961.

<sup>(1)</sup> Except for the few years of recovery from the great depression.

Table 7. The level of real product per head in ten countries, in relation to that of the United Kingdom, 1871/75 to 1959

United Kingdom = 100

	1871/5	1900/4	1909/13	1922	1938	1950	1959
United Kingdom .. ..	100	100	100	100	100	100	100
United States .. ..	84	116	126	153	129	184	181
Canada .. ..	74	89	101	104	86	127	121
France .. ..	..	..	91 <sup>(a)</sup>	94	82	83	95
Netherlands .. ..	..	76	77	99	80	80	92
Denmark .. ..	66	71	85	94	93	99	100
Norway .. ..	66	52	58	77	87	93	99
Sweden .. ..	61	63	76	86 <sup>(b)</sup>	97	115	124
Germany <sup>(d)</sup> .. ..	61	68	73	72 <sup>(c)</sup>	82	65	96
Italy .. ..	54	38	42	53	48	42	55
Japan .. ..	..	11	12	18	24	16	26

Sources and methods : The basic international relationship was obtained for 1950 from Gilbert and Associates, *Comparative National Products and Price Levels*, OEEC, 1958, except for Canada, Sweden and Japan ; these were linked to the United States, Norway and Germany respectively, as follows :

Canada : 1 Canadian \$ = 1 US \$ in 1950.

Sweden : 1 Swedish krona = 1.38 Norwegian kroner (official exchange rate) in 1950.

Japan : 100 Yen = 1.17 Deutschmark (official exchange rate) in 1959.

(For Canada this relationship is very close to that obtained by consumer price comparisons with the United States on German weights (*Wirtschaft und Statistik*, November 1954, *et. seq.*) For Sweden and Japan the indices would be rather lower on the purchasing power basis.)

The figures for other years were then estimated by using growth-rates (Appendix III).

(a) 1913. (b) 1923. (c) 1925. (d) For definitions of territory, see page 46.

other primary industry will fall from 40 to 24 per cent.

Do the historical figures throw any light on the 1950-1959 rapid rates of growth? First of all, these rapid rates are not unprecedented (table 6). France was growing faster and Japan almost as fast in the period from 1922 to the depression. It is true that Italy had not herself previously grown as fast as 4.7 per cent a year for eight years, nor had Germany reached 4.5 per cent except in the very short period from 1925 to 1928. These two countries had no precedent in their own histories. But other countries had reached figures as high as these before—the United States and Sweden, for example. Nothing very exceptional has happened yet.

But hitherto it is true that growth rates of over 3 per cent a year for more than eight years have always been in periods when there was some special explanation—such as political integration or recovery from a war. This, together with the similarity between 1922-1929 and 1950-1959, does suggest that there may well be exceptional recovery factors in these recent rapid rates. It is noticeable that for all the fastest growing countries except Japan the 1954-1959 rates are lower than the 1950-1959 averages.

Table 7. (illustrated in chart 3) suggests the same sort of conclusion. It shows, roughly, how each of the other countries compares with Britain in the level of output per head since 1870. The figures are derived by taking real product comparisons for 1950, and using the growth rates in this article for projecting backwards to 1871-1875 and forwards to 1959. The five countries which show the most rapid rates

since 1950 are all countries which for one reason or another had fallen behind before 1950. France, the Netherlands and Italy had all lost ground between the two wars ; and Germany and Japan had been particularly hard hit in the second world war.

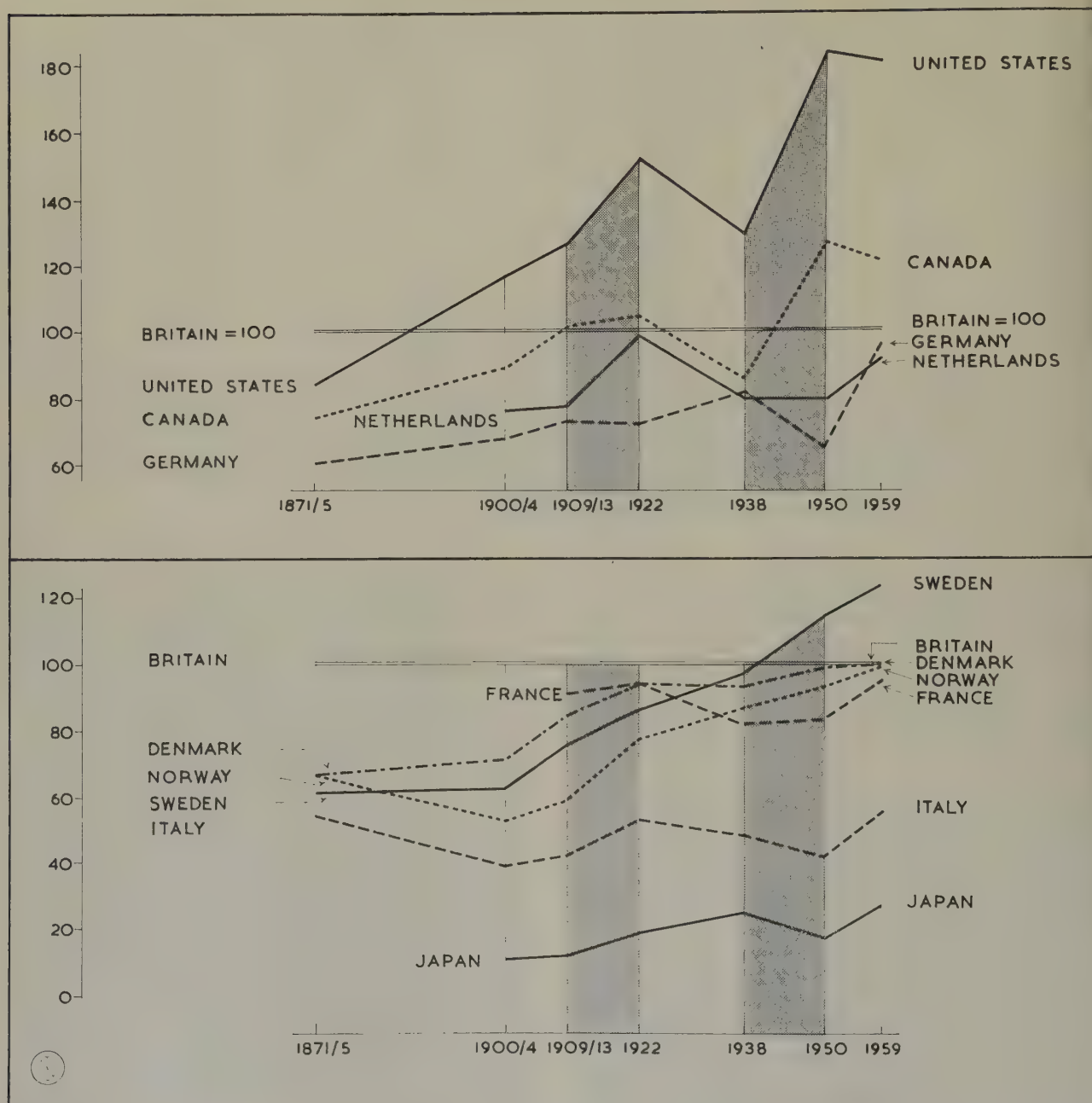
Though nothing exceptional or unprecedented has happened yet, it will be unprecedented if the rapid post-war rates are continued for another ten or fifteen years. It would be unwise to assume, on the basis of historical experience, that this is in any way impossible. There are a large number of forces now making for higher rates of growth which did not exist before : the absence of prolonged depressions, the competition between capitalist and communist economic systems, and the development of incentives to fast growth, including techniques of planning which can be applied to predominantly free enterprise economies. Within Western Europe the economic integration now in process may be as stimulating to growth as it was when, for instance, Germany was united.

It is naive to regard a process as complex as the expansion of economic output as following some necessarily predetermined pattern ; the main lesson of the historical figures is simply that no such pattern does in fact appear in them. When a farmer is estimating probable crop yields he will be wise to assume that these will be subject to the same climatic and other variations as in the past, but foolish to assume that statistical averages of past yields represent the most probable yield under improved conditions of fertilisation and irrigation.



Chart 3. The level of real product per head in ten countries in relation to that of the United Kingdom, 1871/75 to 1959

United Kingdom = 100



Source: Table 7.

## APPENDIX I. RELATIVE GROWTH IN THE DIFFERENT ECONOMIC SECTORS

### The measurement of real product by sector

For a fuller analysis of growth, especially in the earlier periods, we need to know what is happening within each sector. How much of the total increase in productivity results from the shift of labour to more highly paid occupations, and how much from productivity increases within the sectors. Which sectors lead the way?

We cannot answer these question at all precisely, without more reliable labour force figures than are available for most countries; and without a breakdown that measures accurately the real product of each sector. This can be obtained by indices of output of goods and services such as are used in the construction of industrial production indices but covering all the sectors of the economy. This method of measuring real product has been used in the British

post-war series<sup>(1)</sup> and also to compare the real product of Britain and America,<sup>(2)</sup> but it has only been applied partially to long time comparisons. Most countries have long-term industrial production indices, but these need to be extended to include agriculture and services. For agriculture there is no major difficulty because the products and the inputs are relatively homogeneous, and indeed in a number of countries the incomes of the agricultural sector are derived originally from production data.

Measurement in the service industries causes greater difficulty because their output is often difficult to quantify. A broad check on the deflated expenditure series can, however, be got from commodity output (preferably with some rough measure of final services), because a large part of the product of the service industries is either an input into commodity production (for instance, freight transport and much of finance and insurance) or closely related to it, as is distribution. In times of rapid technological advance and price change, the assumption that the *quantity* of services moves with that of goods may often be preferable to the assumption—implicit in many crude price deflators—that their *prices* move with those of goods.

There is a long-term French series of gross physical product (that is, the output of agriculture and industry only), measured in this way ; but unfortunately this is only available for non-overlapping decades which are inadequate to measure short-period movements. Moreover the decade intervals do not coincide with those of the only nineteenth century national product series available. A comparison of the series (table 8) suggests, however, that there are no major differences in the long-term trend ; the difference between the series in growth over the total period is less than that shown in the physical product by alternative weighting systems.

**Table 8. Alternative series of the increase in output in France in the nineteenth century**

*Annual per cent increases over previous decade*

Decade	Gross physical product		Decade	Net national product
	I <sup>(a)</sup>	II <sup>(b)</sup>		
1855/64	1.9	1.7	1851/60	2.0
1865/74	1.6	1.3	1861/70	2.4
1875/84	1.2	0.9	1871/80	— 0.1
1885/94	1.2	1.0	1881/90	2.2
1895/04	1.9	1.8	1891/00	1.9
1905/13	2.3	2.1	1901/10	1.8
Average, whole period	1.6	1.5	1841/50 to 1901/10	1.7

Source : For gross physical product, see page 376 of source given in footnote (3) in adjoining column.

For net national product, S. Kuznets, 'Levels and Variability of Rates of Growth', *Economic Development and Cultural Change*, volume V, no. 1, October 1956, page 59.

(a) Agricultural and industrial output weighted by average value added at current prices of the two sectors for each pair of decades.

(b) 1905-13 price weights used throughout.

(1) *National Income and Expenditure*, 1960, HMSO.

(2) D. C. Paige and G. Bombach, *A Comparison of National Output and Productivity of the United Kingdom and the United States*, OEEC, 1959.

## Relative growth in agriculture and industry

In the earlier part of our period the most important structural change in most of our countries was the transfer of workers from agriculture to industry. This raises two questions. How much of total economic growth is attributable to the transfer of workers to more highly paid work ? And what were the relative rates of increase in productivity in agriculture and the industrial sector over the period ?

The first question is intimately related to the question of prices and, with the very crude deflators usually available for the pre-1913 series, the actual effect of the transfer of workers cannot be estimated. During the second half of the nineteenth century industrial prices were falling relative to those of agricultural products ; in France between about 1850 and 1900 industrial prices fell about 43 per cent, and agricultural prices rose about 14 per cent.<sup>(3)</sup> If, then, we measure the output of industry and of agriculture by production indices, overall productivity will be much higher if they are combined with 1850 price weights rather than with 1900 weights, and in the former case the apparent productivity gain from transferring workers to industry from agriculture will be large.<sup>(4)</sup> But in end-year prices it will be rather small. In Denmark, for example, movement of labour out of agriculture between 1870 and 1913 accounted for an increase of only 0.2 per cent a year in overall productivity when measured in 1929 prices.<sup>(5)</sup> In the United States the effect of redistribution of the labour force between 1909 and 1949 accounted for about one-eighth of the general increase in productivity if measured in 1947 prices and one-quarter measured in 1939 prices.<sup>(6)</sup>

Only a few observations are available on the relative growth of productivity in agriculture and in industry. These suggest that over the whole of the last century there has not been a great difference in the average productivity increase in the two sectors, but that the most rapid growth in agricultural productivity was after 1913. Before the first world war relative agricultural prices seem to have been rising more rapidly than relative agricultural incomes, and this suggests that agricultural productivity was not keeping pace with industrial progress. We have a direct comparison of agricultural and industrial productivity for the United States, Denmark and Canada, but these countries may well have had more rapid development of agricultural productivity than the others in our study. In the United States, gross output per farm worker is estimated to have increased by 45 per cent between 1870 and 1900,<sup>(7)</sup> a period during which national product per man-year increased by

(3) J. Marczewski, 'Some Aspects of the Economic Growth of France 1660-1958', *Economic Development and Cultural Change*, vol. IX, no. 3, April 1961.

(4) The difference in table 8 between series I and II is between 1905/13 price weighting, and a chain index; on 1850 weighting it would be greater.

(5) K. Bjerke, *The National Product of Denmark, 1870-1952*, in *Income and Wealth* series V (Bowes and Bowes, 1955), page 126.

(6) *Productivity, Prices and Incomes*, Materials prepared for the Joint Economic Committee, (Washington, 1957), page 19.

(7) M. W. Towne and W. D. Rasmussen, 'Farm Gross Product and Gross Investment in the Nineteenth Century', *Trends in the American Economy in the Nineteenth Century*, Studies in Income and Wealth, vol. 24, NBER 1960.



about 110 per cent. In Denmark, agricultural output per worker increased by 60 per cent and that of the other sectors combined by just over 100 per cent between the periods 1870-1879 and 1905-1914.<sup>(1)</sup> In Canada on the other hand, between 1870 and 1910 output per man-year in agriculture increased by 83 per cent, in manufacturing by 50 per cent and in gross national product by 67 per cent.<sup>(2)</sup>

#### Relative growth in industrial production and national product

There seem to be grounds for believing that after 1913 in many of our countries the important structural change is not the shift of workers from agriculture to industry but the shift from commodity production to that of services. This is, however, difficult to substantiate because although we have comparable industrial production indices for ten of the eleven countries in our series<sup>(3)</sup> we do not have indices including agricultural production. Nor in most countries do we have sufficiently reliable employment data to compare industrial output per person engaged in industry.

The amount that can be learned from the total growth in industrial production is thus limited, because it results from a combination of factors whose importance varies widely between the countries.

<sup>(1)</sup>K. Bjerke, page 125 of source quoted in footnote (5), page 39.

<sup>(2)</sup>O. J. Firestone, *Canada's Economic Development, 1867-1953*, Income and Wealth series VII, Bowes & Bowes, 1958, page 223.

<sup>(3)</sup>*Industrial Statistics, 1900-1959*, OEEC, Paris 1960.

Our countries fall into three main groups :

1. Countries such as the United Kingdom, which by 1900 had completed their main shift to industry so that rises in industrial product per head of total labour force are mainly limited to a more rapid growth of industrial productivity.

2. Countries, such as Canada and Denmark, which were developing a modern agriculture concurrently with industrialisation and whose economic growth still depends at least as much upon efficient primary production as upon efficient secondary production.

3. Countries, such as Sweden in the nineteenth century and Italy in the twentieth, whose industrial sector was increasing rapidly both in productivity and in its share of the labour force.

The main industrial production series start only in 1901 and refer mainly to the period of cataclysms. It is therefore extremely difficult to distinguish the secular trend from cyclical movements. Two main tendencies appear to be discernible. First, industrial production in almost all growing periods increases more rapidly than national product, but the margin between the two rates has been declining during the last sixty years. Second, the cyclical movements in industrial production are almost invariably sharper than in total national product.

Table 9 shows the extent of the cyclical movements in industrial production during the great depression compared with that of national product. In most countries the periods of decline are almost the same in the two series. Little significance can be attributed to the small differences which occur, as these may be due to statistical factors. In all countries, except

Table 9. The effect of the depression upon industrial production and national product

*I = Industrial production, P = National product*

		Period of decline		Extent of decline : (Trough as per cent of peak)		Rate of recovery up to 1937 (Annual per cent increase)			Industrial production movement as per cent of national product movement	
		From	To	I	P	From	I	P	Decline	Recovery
United States	.. I	1929	1932	55	70	1933	13.0	9.7	79	134
	P	1929	1933							
Germany	.. I	1929	1932	59	84	1932	15.6	8.8	70	177
	P	1928	1932							
Canada	.. I	1929	1932	68	71	1933	13.4	8.4	96	160
	P	1929	1933							
France..	.. I	1929	1932	74	82	(a)	(a)	(a)	90	(a)
	P	1929	1936							
Italy ..	.. I	1929	1932	77	95	1932	8.2	3.0	81	273
	P	1929	1930							
Norway	.. I, P	1930	1931	80	92	1931	8.0	4.3	87	186
Netherlands	.. I	1930	1933	83	88	1934	6.2	5.0	94	124
	P	1930	1934							
United Kingdom	.. I	1929	1931	86	94	1932	8.9	4.9	91	182
	P	1929	1932							
Denmark	.. I	1930	1932	87	98	1932	7.8	2.8	89	279
	P	1931	1932							
Sweden	.. I, P	1930	1932	88	87	1932	11.3	6.3	101	179

Source : Industrial production : *Industrial Statistics 1950-1959*, OEEC (Paris, 1960). National product : Appendix III.

(a) No recovery until 1936.

Table 10. Growth of industrial production related to growth of national product

	Annual per cent increases in industrial production				Annual increases in industrial production as per cent of that in national product			
	1901-59	1901-13	1922-29	1950-59	1901-59	1901-13	1922-29	1950-59
Japan .. ..	4.6 <sup>(a)</sup>	..	..	15.5	128 <sup>(a)</sup>	..	..	180
Canada .. ..	4.5 <sup>(b)</sup>	..	9.0	4.1	129 <sup>(b)</sup>	..	176	103
Netherlands ..	4.1 <sup>(c)</sup>	..	..	5.9	121 <sup>(c)</sup>	..	..	128
United States ..	3.9	4.9	5.4	3.6	126	153	113	106
Italy .. ..	3.7	5.2	6.1	8.4	168	200	265	147
Denmark .. ..	3.6 <sup>(d)</sup>	..	6.6	3.0	164 <sup>(d)</sup>	..	178	115
Sweden .. ..	3.4 <sup>(d)</sup>	..	8.0 <sup>(e)</sup>	2.7	142 <sup>(d)</sup>	..	200 <sup>(e)</sup>	82
Norway .. ..	3.4	4.4	4.4	4.2	121	169	133	124
Germany .. ..	3.0	4.7	6.1 <sup>(f)</sup>	9.2	120	174	149 <sup>(f)</sup>	124
United Kingdom ..	2.4	2.6	4.0	3.3	171	153	148	150
France .. ..	1.9 <sup>(d)</sup>	4.3	7.3	6.3	146 <sup>(d)</sup>	..	126	154

Source : Industrial production : *Industrial Statistics 1900-1959*, OEEC Paris, 1960, *Annotated Economic Statistics of Japan for Post-war Years up to 1958* Hitotsubashi University, Tokyo, 1960. National product : Appendix III.

(a) From 1928. (b) From 1920. (c) From 1926. (d) From 1913. (e) From 1923. (f) From 1925.

Sweden, the fall in industrial production was greater than that in total national product and in a number of cases the difference is marked. The subsequent recovery was also steeper in industrial production, but owing to differences in the secular trend and the lagged effects of the slump for some primary producers, there does not appear to be any particular pattern in the relative rise of industrial production and national product. Consequently the connection between the extent of the fall and the rapidity of the rise, while still evident, is not as marked as it is for total national product.

In table 10 the rates of growth of industrial production are given for the period 1901 to 1959, and for the three short periods free of cataclysms, 1901 to 1913, 1922 to 1929 and 1950 to 1959. These rates are also shown as a percentage of the rates of growth of total national product in the same periods. Over the whole period the rate of growth of total industrial production was between 20 and 30 per cent higher than that of total national product for six of the countries; the difference was greater in Italy, Denmark, Sweden, France and the United Kingdom. These differences are difficult to interpret because they depend partly on relative rates of growth in the industrial and non-industrial sectors, and partly on the weight attributable to industrial production in the total national product.<sup>(1)</sup> The widest differences occur when the industrial sector is relatively small but expanding rapidly, both in labour force and productivity. This explains the high relative increases in industrial production in Japan from 1950 to 1959, in Italy from 1900 to 1913 and in Italy, Denmark and Sweden from 1922 to 1929. We must seek another explanation for the relatively rapid growth of industrial production compared with national product in Britain. Industrial production already had a high weight in total British output by 1900, but as the agricultural sector was very small

throughout the period the non-industrial sectors consisted mainly of services whose productivity increases rather slowly. Agriculture has a larger weight in almost all the other countries, and as its productivity has been rising rapidly in the twentieth century, this raises the average of the non-industrial sectors—for some countries substantially.

In most of the countries for which long enough series exist the growth of industrial production relative to that of total national product has declined throughout the period. Part of this decline may be due to rapidly rising agricultural productivity, and part to the increasing weight of industrial production in the total. The weighting factor is, however, of little importance when the two growth rates are very close.

It may be significant that in Canada and the United States there has been very little difference in the rate of growth of industrial production and gross national product since the second world war and in Sweden total national product has actually grown faster than industrial production. Whereas in the nineteenth century the main labour force shift was from agriculture to industry, in the future we may expect some shift from industry to services. This is partly to be expected as the result of an increasing demand for services as real income rises, and partly because very rapid increases in agricultural and manufacturing productivity do not seem to be matched by corresponding increases in distribution.<sup>(2)</sup> Consequently, as the production of commodities expands, sooner or later it becomes necessary for more workers to move to trade and commerce to distribute this increased volume of physical production. It would be dangerous to draw firm conclusions from the experience of the last ten years but it seems possible that this process has started in Canada, the United States and Sweden. It may, however, be a considerable

(1)As this weight is affected by the price base used, any attempt to separate these factors in series constructed on different bases and by different methods would have a very high margin of error.

(2)H. Barger, *Distribution's Place in the American Economy since 1899*, NBER, 1955, which shows that over the period 1899-1949 output per person engaged in commodity production in the United States increased nearly fivefold, while output per person engaged in distribution barely doubled.



time before the other countries show a corresponding tendency, because in these countries, whose absolute level of industrial productivity still appears to be substantially below that of the United States, there may still be room for increased productivity in services<sup>(1)</sup> to keep pace with the rise of industrial productivity.

## APPENDIX II. PROBLEMS OF RELIABILITY AND MEASUREMENT

### The index number problem

There is no unique measure of change in the level of output (or of prices) because this depends on the price (or quantity) weights used to combine the movements of individual items. Products whose output expands most tend to show a decline in relative price, and consequently over periods of substantial structural change the measure of real product may differ considerably according to the base year chosen.

The direction of this difference depends upon the method used to obtain estimates of the movement of the real product. If quantity series, with price weights, are used, then with the weights of the initial period we are probably giving a high weight to those items whose production has risen most, and may expect the real product index to increase more than if we use the prices of the end period. If, however, we use a single price index to deflate current value series of national income in order to get a real product series, the selection of the base year has the opposite effect. By using initial year quantity weights in the price index, we give a low weight to those products whose relative prices are most likely to have fallen and so the estimate of the average price increase is high; this produces a low measure of the rise in real product.<sup>(1)</sup>

For time series there is very little information on the spread between figures obtained by the alternative methods of weighting; there is rarely enough information to use one method consistently throughout. In comparisons between countries, however, very wide index number spreads have been found. The gross national product of the United States, for instance, has been found to be about  $5\frac{1}{2}$  times that of Italy if measured in Italian prices, but only  $3\frac{1}{2}$  times if measured in United States prices.<sup>(2)</sup> It is not easy to say whether the changes in relative prices and quantities in one country over long periods of time are greater or smaller than those between countries of different economic structures and income levels at the same point of time. But if we assume, simply for illustration, that the difference in price patterns which now exists between the United States and Italy is the same sort of difference as might exist in a single country between 1880 and 1960, the implication is that a growth rate of 1.5 per cent a year, measured by a single detailed price index with 1880

<sup>(1)</sup>In this context higher productivity in services may not mean efficiency changes, but a tendency to cut the labour input into distribution and services as a result of rising relative wage costs brought about by increasing industrial productivity. In Canada and the United States this change appears to have taken place much earlier, because the availability of free land kept labour costs high.

weights might change to one of 2.2 per cent if 1960 weights were used.<sup>(3)</sup> Such an estimate of the spread is probably conservative; in Sweden it was found that over the short period from 1929 to 1939 the growth rate was about 3.8 per cent a year measured either in 1929 or 1939 prices, but only 2.3 per cent a year measured in 1913 prices.<sup>(4)</sup>

Since there are such wide potential differences between the two extreme measures of growth over a long period, it may seem doubtful whether any useful comparison of growth rates between different countries and different periods can be made unless the series use the same base years and methods of deflation. In practice, perhaps fortunately, the range of alternative measures that occurs is very much smaller because it is seldom possible to make a complete comparison over a long period by either the Laspeyres or the Paasche formula. All the series we have involve some combination of both methods and consequently may be expected to cluster somewhere about the mean of the two. This is partly because very long series are unlikely to be measured in the prices either of the starting or of the final year. But it is also due to the fact that for most countries, over most periods, current value series for major groups of expenditure (or production) are deflated by a series of base weighted price indices so that there is a 'bias' in one direction in the aggregation of the main groups, and in the opposite direction in the estimation within the groups. Our problem then becomes, not one of a very wide range between two different kinds of measures, but the fact that we are uncertain exactly what measure we have. Whether the index approaches more nearly to a base-weighted or a current-weighted one—and how far apart these extremes are—depends on the amount of detail in the breakdown to which separate price indices have been applied, and also on the nature of relative price and quantity movements both within and between the groups.

Whatever the net effect of the weights and base year selected upon the index obtained, this effect will be in reverse direction whether we are looking backwards or looking forwards. It is a common practice to minimise the effect of price and structural shifts by selecting a base year somewhere in the middle of the period studied; a comparison of the period 1900 to 1960 might thus be made on a 1930 base. By this means the comparison of growth from, say, 1900 to 1910 may be more meaningful than if measured in 1960 prices which are still more irrelevant to the

<sup>(1)</sup>In algebraic terms this is demonstrated by the fact that a current weighted (Paasche) price index must be applied to obtain a base weighted (Laspeyres) quantity index, viz:

$$\frac{\sum P_0 Q_1}{\sum P_0 Q_0} = \frac{\sum P_1 Q_1}{P_0 Q_0} \cdot \frac{\sum P_1 Q_1}{\sum P_0 Q_1}$$

<sup>(2)</sup>M. Gilbert and Associates, *Comparative National Products and Price Levels*, OEEC, 1958.

<sup>(3)</sup>If one assumed that a change of this order occurred over, say, 50 years instead of 80 years, the spread between the two differently weighted annual rates would be slightly greater.

<sup>(4)</sup>*Sveriges Nationalprodukt, 1861-1951*, Konjunkturinstitutet, (Stockholm, 1956), page 43.

earlier sub-period than those of 1930. There is, however, a disadvantage in this compromise if we want to know whether growth rates are increasing or decreasing, because a series with a predominantly downward bias from 1900 to 1930 will have a predominantly upward bias from 1930 to 1960 or vice versa. If, therefore, the growth rate were actually constant over the period our measure would show it as rising or falling. A better general review of growth rates can be obtained by linking fairly short period indices and thus getting the most relevant comparison of each sub-period. This leaves the aggregate measure of the long-term rate over the whole period rather uncertain, but this is likely to be so whatever method we adopt. The data available for the present article usually gave very little choice in the selection of base years. But, wherever possible, consistent series with weights from a year within the period were used for the most significant sub-periods, and linked together. For example, all the 1950-1959 indices are based on 1954 prices and linked to those of the inter-war period.

### Alternative estimates of national product since 1913

For all our countries the series available for the period after 1950 are deflated in some detail so that they are a real measure in the prices of the base year.<sup>(1)</sup> Even in these recent periods differences in the amount of detail used for deflation may affect the comparability of the results, but they are not likely to be large by comparison with the margin of error of both the current value and price series. Most countries have probably made a true base weighted comparison that reflects the effect of shifts between the main sub-groups of consumers' expenditure, such as food, clothing and durables. The effects of equally important shifts from one food to another, from natural to synthetic fibres, or from sound radio to television may differ according to the amount of detail used in the weighting of the component price indices.

<sup>(1)</sup> This is presented as 1954 in the OEEC series, but in some cases conversion from a different national base year may have been made rather crudely.

Table 11. A comparison of alternative estimates of total product, employment, and product per man-year<sup>(a)</sup>

Annual per cent increases									
	1913- 1922 <sup>(b)</sup>	1922- <sup>(b)</sup> 1938	1922- <sup>(b)</sup> PY <sup>(c)</sup>	Depres- sion index <sup>(d)</sup>	TY <sup>(e)</sup> - 1937 <sup>(f)</sup>	1938- 1950	Peace average	War average	Total period 1913- 1959
<b>Total product</b>									
<i>United Kingdom</i>									
Series used .. ..	-1.4	2.3	2.7	94	4.9	1.3	2.2	0.1	1.3
Alternative A .. ..						0.9		-0.1	1.2
B .. ..	-1.4	2.3	2.8	93	5.0		2.2	0.1	1.3
C .. ..	-0.2	2.7	3.3	100	3.5	1.1	2.5	0.5	1.6
<i>Germany</i>									
Series used .. ..	-0.8	4.0	5.7	84	8.8	0.4	5.4	-0.2	2.4
Alternative A .. ..	-0.5	2.8	5.1	75	8.3	0.1	4.6	-0.2	2.1
B .. ..	-0.8	2.9	4.8	72	9.2	0.5	4.7	-0.2	2.1
<i>Sweden</i>									
Series used .. ..	-0.3	3.1	3.9	87	6.3	3.2	3.2	1.6	2.4
Alternative A .. ..	1.3					4.8		3.2	3.2
B .. ..	0.1	2.9	3.8	86	6.4	3.5	3.0	1.9	2.5
C .. ..	1.4	3.4	3.8	89	7.1	2.8	3.4	2.1	2.8
<i>Japan</i>									
Series used .. ..	3.4	5.2	6.5	101	4.8	-1.2	6.4	0.7	3.8
Alternative A .. ..		4.8	5.8	105	4.0	-1.1	6.1	0.8	3.7
<i>Denmark</i>									
Series used .. ..	0.4	2.8	3.6	98	2.8	2.4	2.7	1.5	2.2
Alternative A .. ..	1.6	2.5	3.7	94	2.7	2.2	2.5	1.9	2.3
<b>Employment</b>									
<i>Denmark</i>									
Series used .. ..	0.7	1.2	1.5	93	2.4	0.9	1.0	0.8	0.9
Alternative A .. ..	-0.5	2.0	2.1	95	3.4	1.1	1.6	0.4	1.0
<b>Product per man-year</b>									
<i>Denmark</i>									
Series used .. ..	-0.2	1.5	2.1	105	0.4	1.5	1.6	0.7	1.2
Alternative A .. ..	2.0	0.4	1.5	99	-0.7	1.1	1.0	1.5	1.2

Source : Appendix III, in which the alternative series are described.

(a) In the alternative series, figures are only inserted when they differ in source from the figures used.

(b) For Germany from 1925, and for Sweden from 1923.

(c) PY = peak year before the depression.

(d) The depression index is the depression trough figure as a percentage of the pre-depression peak figure (table 4, page 32).

(e) TY = trough year of depression.

(f) Japan to 1938.



The series from 1922-1938, and those bridging the two world wars, vary rather widely in accuracy and method of deflation as well as in the choice of base year. Some countries, for instance the United States, Canada and Norway, have extended their official series back as far as 1930 or earlier with a fairly detailed breakdown and deflation of sub-groups, although fewer series are employed than in the recent period. In some other countries only a broad deflation of current value series in a few major groups has been possible so far. It is extremely difficult to assess how much effect these differences in method may have on our growth rates, but for those countries which have recently revised their series, a comparison of some of the alternatives is given in table 11.

In most cases these revisions resulted from the change from a rather crude overall price deflator to one which, though more refined, was still only broken down into fairly large groups; the changes do not give us a measure of the differences that may arise from substantial changes in method. Since they have all been issued in the last few years, they do give some indication of what our results might have been if this article had been written two or three years earlier. Table 11 shows the difference between various alternative series for all the periods used in the main tables between 1913 and 1950, and it gives their effect on the period from 1913 to 1959. Revisions of figures after 1950 are ignored, since these are mainly just the substitution of final for provisional estimates.

Much of the revision is concentrated in the period bridging the first world war. In all cases the revision has shown a smaller rise or greater fall in real product than that given by the first estimates. For Germany, Sweden and Denmark it seems that the effect of using a cost-of-living index over the first war period underestimates the price increase, and thus gives too large a real product increase; subsequent revisions of the price index have altered this. The official German cost-of-living index over the period 1913 to 1925 showed rises of about 50 per cent in food; 30 per cent in fuels; 70 per cent in clothing and miscellaneous items; and a fall of 20 per cent in rent.<sup>(1)</sup> Almost any answer could be obtained according to the way these movements are combined. For Sweden, Alternative A employs a simple cost-of-living index adjustment over the second world war and produces a very much higher rate of growth than any of the other series. The United Kingdom proves the exception to the rule. The series used in the article was based on a straightforward cost-of-living index deflation; this produces a result for 1913-22 almost identical with that obtained by a considerably more detailed calculation (Alternative B), but again shows a larger price increase in the war years than an earlier series shown in Alternative C.

The variations in movement between the series are for most countries smaller in the period 1922-1938 than in the war periods; but for Britain there is quite a sharp difference in the extent of the effect of the depression and subsequent recovery. The most recent series used for Britain agrees more closely with movements of the industrial production index. There

is quite a substantial difference in the rate of growth in the inter-war period in Germany according to the series selected. In this case, however, the difference is not entirely due to differences in the deflation; it also reflects the fact that the official series used in this article measures the movements between 1925 and 1938 of the real product of the present Federal area. Earlier series simply gave movements within the inter-war territory, linked on 1936 to the present Federal area.

### Measures of national product before 1913

The series before 1913 are in almost all cases deflated in total, or in very large groups, and are usually expressed in prices of the end of the period. In principle, therefore, we would expect them to give a higher growth rate than the methods used for later periods. In practice, however, straightforward errors due to lack of data probably outweigh theoretical considerations, and the direction of bias is difficult to assess. In some instances the current value series are estimated only from the income side which does not give appropriate weights for deflation, and in addition the price material at present available is inadequate. Usually the choice is between a wholesale price index or a cost-of-living index based on working-class consumption patterns. The wholesale price index has two main disadvantages. In the first place the commodities included in the older indices are usually overweighted by items with large cyclical price fluctuations. To eliminate these it is necessary to use moving averages or some similar device which can only give trend values for the real product index. Secondly, the earlier wholesale price indices are based mainly on primary products and processed goods are under-represented. Moreover there is no allowance for changes in prices of services which in periods of rapidly changing technology are quite likely to be in the opposite direction from those of goods. On the other hand the cost-of-living index of this period is likely to be overweighted by food and rent which are a much greater part of working-class budgets than of the total national product. Thus both indices fail to give any real measure of price changes resulting from rapidly increasing productivity in manufacturing and thus they may miss one of the most important price movements in the latter part of the nineteenth century (Appendix I, page 39). The figures for all countries have the same deficiency, so that the errors resulting are probably in the same direction.

### The employment figures

In principle the employment series needed to obtain gross national product per man-year is the total employed labour force, excluding the unemployed but including the armed forces. Annual estimates in this form are available over quite long periods for Canada and the United States; they are available for the United Kingdom and some other countries for the last ten to fifteen years; for earlier periods rather crude substitutes have had to be accepted, in many instances.

The labour force estimates for the years before 1913 are in all cases rather uncertain; they rely mainly on interpolated census data subject to considerable statistical error and changes in definition.

<sup>(1)</sup> *Statistisches Jahrbuch für die Bundesrepublik Deutschland* 1960, Statistisches Bundesamt, (Wiesbaden, 1960), page 486.



There is also very little information on the allowance which should be made for variations in unemployment. We have, therefore, following Maddison's example,<sup>(1)</sup> related national product simply to changes in the population of working age defined throughout the period as the age groups 15 to 65.<sup>(2)</sup> This gives a slightly better approximation to movements in output per man-year than using the total population since a large part of population change is in the dependent age groups. It is a rather poor substitute for true labour force; but over the whole period up to 1913 the long-term average rates of growth of population of working age and of labour force were not very different for those countries for which independent estimates exist (table 12). No account is taken of changes in hours worked, which

**Table 12. Growth rates in the population of working age and in the labour force, and alternative estimates of product per man-year**

*Annual per cent increases*

	Popula- tion of working age	Labour force	Product per man- year, using	
			Popula- tion of working age	Labour force
<b>Starting year to 1913</b>				
Canada ..	2.1	2.3 <sup>(a)</sup>	1.9	1.7
United States	2.3	2.6 <sup>(a)</sup>	2.2	1.8
Denmark ..	1.1	0.9	2.1	2.2
Japan ..	0.9	0.9	3.4	3.4
<b>1913 to 1959</b>				
France ..	0.1	- 0.2	1.2	1.5
Italy ..	0.9	0.4	1.3	1.7
Japan ..	1.4	1.1	2.3	2.6
<i>of which</i>				
<b>1922 to 1938</b>				
France ..	—	- 0.4	1.4	1.8
Italy ..	0.8	0.2	1.1	1.7
Japan ..	1.5	0.8	3.6	4.4

Source: Appendix III.

(a) Employed labour force.

fell considerably in the earlier period. To this extent, therefore, the series of output-per-man-year, on which the main analysis is based, underestimates the growth in productivity, but the data available on hours worked do not appear adequate for the construction of annual series for all countries.<sup>(3)</sup>

From 1913 onwards an attempt is made to make a proper estimate of the employed labour force, although the series available are not entirely satisfactory. Those for most of the European countries are taken from Maddison and are based on estimates of the total labour force obtained by interpolating participation rates derived from census years and applying the percentage rates thus obtained to annual population estimates. These labour force estimates are then adjusted for unemployment to obtain an estimate of the employed labour force.

For France, Italy and Japan no adjustment for unemployment was possible, as the series for France and Italy did not appear sufficiently reliable<sup>(4)</sup> and none comparable with western concepts could be obtained from Japan. For these three countries also the labour force figures are probably subject to a higher margin of error than those for the other countries. In Italy and Japan in particular, and in France to a lesser extent, the figures available show a marked fall in participation in the labour force over the period 1913 to 1959; it is not certain how far this may be exaggerated by inclusion of child labour and part-time family members in the earlier periods. Had we decided to use population of working age rather than employed labour force in the period after 1913 the effect on the growth rates of output per man for these three countries would have been quite significant (table 12). For the other countries the differences arising from changes in participation rates are rather small. For Denmark we have two rather different labour force series available, although both are based initially on census information. Table 11 shows the combined effect of alternative labour force and alternative national product estimates on production per man-year.

For most countries the adjustment on account of unemployment is the most difficult; because of the heavy rate of unemployment experienced generally between 1922 and 1938 this is of major importance in the inter-war period. Unfortunately the only data available for a number of countries are based on unemployment in selected trade unions. Maddison adjusted the unemployment rates to allow for the greater incidence of unemployment among trade union members but there is no way in which allowance can be made for the fact that trade union unemployment shows greater cyclical movement than total unemployment.<sup>(5)</sup> Consequently, differences in the movement of gross national product per man-year from that of total gross national product leave us uncertain how far this is due to real lack of adjustment of labour force to output, and how far it is due to statistical errors in the unemployment series. It is noticeable, for example, that for Norway and Sweden the employment series in the inter-war years move more closely with industrial production than with the national product. This is not surprising, since the employment series is derived from the movements of unemployment in trade unions.

<sup>(1)</sup>A. Maddison, 'Economic Growth in Western Europe 1870-1957', *Banca Nazionale del Lavoro Quarterly Review*, March 1959.

<sup>(2)</sup>15-59 for Japan.

<sup>(3)</sup>In those periods during which hours were sharply reduced, it is also doubtful how much of the productivity rise per man-hour which occurred was due simply to increases in personal efficiency directly resulting from the reduction of hours.

<sup>(4)</sup>The series for France and Italy were adjusted for unemployment from 1950-59, but the effect of the adjustment in this period is small.

<sup>(5)</sup>Walter Galenson and Arther Zellner, 'International Comparison of Unemployment Rates' in *The Measurement and Behaviour of Unemployment*, NBER, Princeton, 1957.



## APPENDIX III. SOURCES AND METHODS

The following notes give brief definitions and the main sources of the series used to calculate the growth rates. The year-by-year indices from which the calculations were made and a complete list of sources may be obtained from NIESR on request. Table 13 is a reference table of the growth rates used in the article.

**Total product**

Gross national product at market prices was used wherever available. The figures for 1938 to 1950 are gross national product at 1954 market prices from (1) *OEEC Statistical Bulletin*, January 1959 and January 1961, unless otherwise stated. For the earlier periods, extensive use was made of the series in (2) A. Maddison, 'Economic Growth in Western Europe 1870-1957', *Banca Nazionale del Lavoro Quarterly Review*, Rome, March 1959. The other main sources used are as follows:<sup>(1)</sup>

**Japan**

- (3) Kazushi Ohkawa, *The Growth Rate of the Japanese Economy since 1878*, Hitotsubashi University, Tokyo 1957.
- (4) *Monthly Circular*, Mitsubishi Economic Research Institute, Tokyo.

The series used was national income produced from 1878 to 1938, and national income distributed from 1950 to 1959; the link was made on the 1935-1939 average. The figures in the main source, (3) were extrapolated to 1959 from current price estimates from (4), deflated by the urban consumer price index. Alternative A in table 11, page 43, uses the national income distributed series from 1930 onwards.

**United States**

- (5) Simon Kuznets, *Capital in the American Economy: its Formation and Financing*, preliminary mimeographed version, NBER, May 1959.
- (6) *Business Statistics*, 1959 Edition, US Department of Commerce, June 1959.
- (7) *Survey of Current Business*, July 1960.

Kuznets Variant III from Source (5) was used from 1871 to 1929, and linked on 1929 to the Department of Commerce series (Sources (6) and (7)). Both series cover gross national product at market prices, but differ in some definitions, particularly in the treatment of government expenditure.

**Canada**

- (8) O. J. Firestone, *Canada's Economic Development 1867-1953*, Income and Wealth series VII, 1958.

The series give gross national product at market prices throughout. Firestone was linked to the OEEC series on 1948.

**Sweden**

- (9) *Sveriges Nationalprodukt 1861-1951*, Konjunkturinstitutet, Stockholm, 1956.
- (10) Östen Johannsson, *Economic Structure and Growth in Sweden 1861-1953*, paper presented to the 6th European Conference of the International Association for Research in Income and Wealth, 1959.

- (11) Ingvar Svennilson, *Growth and Stagnation in the European Economy*, United Nations, Geneva 1954.

The series used gives gross national product at market prices throughout. Johannsson, (10), was used for the annual movements but adjusted from selected years in the official series, (9), to get a better measurement of price changes in the war period.

Alternative A, table 11, page 43, is taken from (10) without adjustment; Alternative B is from Maddison (2) (based on (9) and (11)); Alternative C is from Svennilson, (11).

**Denmark**

- (12) Kjeld Bjerke and Niels Ussing, *Studier over Danmarks Nationalprodukt 1870-1950*, University of Copenhagen, 1958.
- (13) Kjeld Bjerke, *The National Product of Denmark 1870-1952 in Income and Wealth Series V*, Bowes & Bowes, 1955.

The series used from 1870 to 1938 was gross domestic product at market prices, from (12), linked to the OEEC series on 1938. A reduction of 5.8 per cent (the population ratio) was made from 1922 onwards, to adjust for the inclusion of N. Schleswig after the first world war.

Alternative A (table 11, page 43) is from (2), which was based on preliminary figures in the same series published in (13).

**Norway**

- (14) *National Accounts, 1900-1929*, Norges Offisielle Statistikk XI, 143, Oslo, 1953.
- (15) Jul Bjerke, *Some Aspects of Long-Term Economic Growth in Norway since 1865*, paper presented to the 6th European Conference of the International Association for Research in Income and Wealth, August 1959.

The series used from 1865 to 1938 is gross domestic product, linked to (1), the OEEC series, on 1938. The figures from 1900 to 1938 were taken from (2), which Maddison derived from (14); he included, however, an adjustment to OEEC conventions on building repair and maintenance. For the earlier period only observations of selected years, from (15), are available; the years chosen represent high and low points.

**Germany**

- (16) W. G. Hoffman and J. H. Müller, *Das Deutsche Volkseinkommen 1851-1957*, Tübingen, 1959.
- (17) *Statistisches Jahrbuch für die Bundesrepublik Deutschland*, 1960, Statistisches Bundesamt, Wiesbaden, 1960.
- (18) F. Grünig, "Die Anfänge der 'Volkswirtschaftlichen Gesamtrechnung' in Deutschland" in *Beiträge zur Empirischen Konjunkturforschung*, Duncker und Humboldt, Berlin, 1950.

The series used from 1851 to 1925 is national income; that from 1925 onwards gross national product at market prices. The figures from 1851 to 1871 are five year averages taken from (16). From 1871-1913 the annual current price series were deflated by a moving average of the Jacob and Richter wholesale price index (which was used in (16) in more detail to obtain the five year averages). From 1925 to 1938 the series used (from 17) was based on the territory of the present Federal area, and was linked to (1), the OEEC series, on 1938. The link from 1913 to 1925 was based on estimates in (18) which take account of the territorial changes.

<sup>(1)</sup> The base year of the original series is not generally given, because this frequently does not constitute a true base, but merely the year in whose average values the figures are presented.

Alternative A (table 11, page 43) was based on (2), Maddison, and Alternative B on (16), Hoffman and Miller, with annual series calculated from the implicit deflator in (18).

#### France

- (11) I. Sventnilson, *Growth and Stagnation in the European Economy*, United Nations, Geneva 1954.
- (19) Simon Kuznets, 'Levels and Variability of Rates of Growth', *Economic Development and Cultural Change*, vol. V, no. 1, October 1956.
- (20) Jan Marczewski, 'Some Aspects of the Economic Growth of France, 1660-1958', *Economic Development and Cultural Change*, vol. IX, no. 3, April 1961.

The annual series from 1913 to 1950 is net national product at factor cost from (11), linked to (1), the OEEC series on 1949/50. The source is adjusted to allow for territorial changes (the acquisition of Alsace/Lorraine). The average rate of growth over the period 1851/60-1901/10 was calculated from (19) and this was averaged with the rate from 1913 onwards to get the growth rate for the total period. There are no annual series before 1913, and the decade average series in (19) have a rather high margin of error. They agree moderately well, however, with estimates based on gross physical product of industry and agriculture given in (20). (See table 8, page 39).

#### Italy

- (21) *Indagine Statistica sullo Sviluppo del Reddito Nazionale dell'Italia dal 1861 al 1956*, Annali di Statistica, serie VIII, vol. 9. Istituto Centrale di Statistica, Roma, 1957.

The series used is gross national product at market prices throughout, and is adjusted in the original source to take account of territorial changes. From 1900 the figures were taken from (2), who adjusted to meet the OEEC definitions in respect of government expenditure. A similar adjustment was made to the original series for pre-1900 figures. The series was linked to (1), the OEEC series, on 1938.

#### United Kingdom

- (22) P. M. Deane and W. A. Cole, *British Economic Growth, 1688-1955*, to be published by Cambridge University Press.
- (23) Richard and Giovanna Stone, *National Income and Expenditure*, to be published by Bowes and Bowes, 1961.
- (24) J. B. Jefferys and D. Walters, *National Income and Expenditure of the United Kingdom 1870-1952*, Income and Wealth series V, Bowes and Bowes, 1955.
- (25) *National Income and Expenditure 1960*, HMSO.

The series used from 1855 to 1938 is net national income from (22) and gross national product at market prices thereafter. Source (22), deflated by Bowley's cost of living

index, agrees very closely in the annual movements from 1909-1938 with source (23), although the latter, based on the current price series in (24), is a more detailed deflation with post-war weights, and covers gross national product. The figures from 1921 onwards were adjusted, proportionately to population, to allow for the exclusion of Southern Ireland. The movement from 1855 to 1913 includes Southern Ireland, and as per capita incomes there were lower, the adjustment somewhat underestimates the fall in total product from 1913 to 1922. Source (22) was linked to source (25) for the post-war years, by the movement shown by (23) from 1938 to 1950.

Alternative A (table 11, page 43) is based on (22) from 1938 to 1950; Alternative B is based on (23) throughout; and Alternative C is from (2), Maddison, which was based on (24).

#### Netherlands

- (26) *Het Nationale Inkomen van Nederland 1921-1939*, Centraal Bureau voor de Statistiek, Utrecht, 1948.

The series used from 1900 to 1938 is net national product at factor cost from (2), which were derived from (26), linked to (1), the OEEC series on 1938.

#### Population of working age

Estimates of population of working age were obtained by interpolating percentage estimates of the age groups 15-64, and applying these to annual population estimates. Maddison's series, (2) above, were used for the countries which his series covered. The series were extended to additional periods and estimates for the other countries were made from national sources, with appropriate adjustment for territorial changes. Estimates for Japan covering the age groups 15-59 were derived from source (3) above.

#### Employment

Maddison's indices of the labour force, adjusted by unemployment percentages from the same source, were used for Sweden, Denmark, Norway, Germany, the Netherlands and the United Kingdom. They were supplemented for recent years by estimates in (27), *Manpower and Population 1900-1958*, OEEC, Paris, 1960, and national sources. Estimates for Italy were obtained from the same source, but with no adjustment for unemployment before 1950. The French estimates were based on interpolated quinquennial estimates of active population (28) *Annuaire Statistique de la France*, 1956, INSEE, Paris, and also include no adjustment for unemployment, before 1950.

Estimates for Japan were obtained from (3), and cover all gainfully occupied, including family helpers; there is no allowance for unemployment. Those for Canada and the United States are annual estimates of the total employed labour force, based on various national series.



Table 13. Reference table of growth rates used in the article

Annual per cent increases

		Japan	USA	Canada	Sweden	Denmark	Norway	Germany	France	Italy	UK	Netherlands
<i>Starting year (SY)</i>		1880	1871	1872	1863	1872	1865	1853	1855	1863	1857	1900
<b>Long-term rates</b>												
SY—1959									(a)			
	P	4.0	3.8	3.5	2.8	2.6	2.5	2.5	1.5	1.8	2.0	2.5
	E	1.0	1.7	1.8	0.7	1.0	0.8	1.1	—	0.5	0.8	1.4
	Py	2.9	2.0	1.7	2.1	1.6	1.6	1.5	1.5	1.2	1.2	1.1
SY—1913									(a)			
	P	4.4	4.5	4.0	3.1	3.2	2.1	2.6	1.7	1.4	2.6	2.2
	E	0.9	2.3	2.1	0.7	1.1	0.8	1.1	0.1	0.6	1.0	1.5
	Py	3.4	2.2	1.9	2.4	2.1	1.3	1.5	1.5	0.7	1.6	0.7
1913—1959												
	P	3.8	3.1	3.1	2.4	2.2	2.8	2.4	1.3	2.2	1.3	2.6
	E	1.1	1.3	1.6	0.7	0.9	0.9	1.1	— 0.2	0.4	0.5	1.3
	Py	2.6	1.8	1.5	1.7	1.2	1.9	1.4	1.5	1.7	0.8	1.3
<b>1913—1959</b>												
Peace average												
	P	6.4	2.4	2.8	3.2	2.7	3.2	5.4	2.3	3.3	2.2	2.8
	E	1.3	0.9	1.6	0.5	1.0	0.5	1.5	— 0.1	0.4	0.7	1.1
	Py	5.0	1.5	1.1	2.7	1.6	2.8	3.8	2.4	2.8	1.6	1.7
War average												
	P	0.7	4.0	3.5	1.6	1.5	2.3	— 0.2	—	0.9	0.1	2.4
	E	0.8	1.7	1.6	1.0	0.8	1.4	0.6	— 0.3	0.4	0.3	1.7
	Py	— 0.1	2.2	1.9	0.6	0.7	0.9	— 0.8	0.3	0.5	— 0.2	0.7
1913—1922 <sup>(b)</sup>												
	P	3.4	2.6	0.2	— 0.3	0.4	2.3	— 0.8	— 1.4	1.4	— 1.4	2.8
	E	0.5	0.4	0.8	1.4	0.7	0.5	1.0	— 0.2	0.3	— 0.4	1.4
	Py	2.8	2.1	— 0.6	— 1.6	— 0.2	1.8	— 1.8	— 1.2	1.1	— 1.0	1.4
1922 <sup>(b)</sup> —1938												
	P	5.2	1.8	2.1	3.1	2.8	3.2	4.0	1.4	1.9	2.3	1.8
	E	0.8	0.7	1.4	0.5	1.2	0.6	0.6	— 0.4	0.2	0.8	1.0
	Py	4.4	1.1	0.6	2.7	1.5	2.6	3.3	1.8	1.7	1.5	0.8
1922 <sup>(b)</sup> —1929												
	P	5.0	4.8	5.1	4.0	3.7	3.3	4.1	5.8	2.3	2.7	4.0
	E	0.8	2.6	2.9	0.7	1.7	0.9	— 0.7	— 0.1	0.1	1.1	2.0
	Py	4.1	2.1	2.1	3.3	2.0	2.4	4.8	5.8	2.2	1.6	2.0
1929—1937 <sup>(c)</sup>												
	P	5.4	0.1	— 0.3	2.4	2.2	3.1	3.2	— 2.1	1.9	2.3	0.2
	E	0.8	— 0.3	0.6	0.3	0.8	0.4	1.0	— 0.8	0.2	0.7	— 0.1
	Py	4.6	0.4	— 0.9	2.1	1.5	2.7	2.1	— 1.3	1.6	1.6	0.3

Table 13 (cont.). Reference table of growth rates used in the article

	Japan	USA	Canada	Sweden	Den- mark	Norway	Ger- many	France	Italy	UK	Nether- lands
<i>Dates of depression, from : (PY)</i>	1931	1929	1929	1930	1931	1930	1928	1929	1929	1929	1929
<i>to : (TY)</i>	1933	1933	1933	1932	1932	1931	1932	1936	1930	1932	1934
1922 <sup>(b)</sup> —PY											
P	6.5	4.8	5.1	3.9	3.6	3.9	5.7	5.8	2.3	2.7	4.0
E	0.5	2.6	2.9	0.5	1.5	0.8	-0.3	-0.1	0.1	1.1	2.0
Py	5.9	2.1	2.1	3.3	2.1	3.1	6.0	5.8	2.2	1.6	2.0
PY—TY	(d)							(d)	(d)		
P	0.5	-8.7	-8.3	-6.9	-2.0	-8.0	-4.3	-2.8	-5.4	-1.9	-2.5
E	1.4	-5.0	-3.0	-2.4	-6.6	-2.2	-4.6	-0.9	0.0	-2.5	-1.0
Py	-0.8	-3.9	-5.5	-4.6	4.9	-5.9	0.3	-1.9	-5.4	0.6	-1.5
TY—1937	(d)							(d)	(d)		
P	3.0	9.7	8.4	6.3	2.8	4.3	8.8	3.3	3.0	4.9	5.0
E	1.1	4.6	4.3	1.6	2.4	0.9	5.1	—	0.3	2.7	1.6
Py	1.8	4.9	3.9	4.6	0.4	3.4	3.5	3.3	2.7	2.2	3.4
TY—1938	(d)							(d)	(d)		
P	4.8	6.7	6.8	5.8	2.4	4.1	9.0	1.1	2.6	4.0	3.5
E	1.1	2.7	3.0	1.4	2.2	0.7	4.8	—	0.3	2.1	1.8
Py	3.7	3.9	3.7	4.4	0.2	3.3	4.0	1.1	2.2	1.9	1.7
PY—1937 <sup>(c)</sup>	(d)							(d)	(d)		
P	3.6	0.1	-0.3	2.3	2.0	2.5	2.8	-2.1	1.9	2.3	0.2
E	1.2	-0.3	0.6	0.4	0.8	0.4	0.7	-0.8	0.2	0.7	-0.1
Py	2.4	0.4	-0.9	1.9	1.1	2.0	2.1	-1.3	1.6	1.6	0.3
1938—1950											
P	-1.2	5.1	6.0	3.2	2.4	2.3	0.4	1.0	0.4	1.3	2.1
E	1.1	2.7	2.1	0.7	0.9	2.0	0.3	-0.4	0.4	0.9	1.9
Py	-2.3	2.3	3.8	2.4	1.5	0.3	0.1	1.4	—	0.4	0.2
1950—1959											
P	8.6	3.4	4.0	3.3	2.6	3.4	7.4	4.1	5.7	2.2	4.6
E	2.3	1.2	1.9	0.5	0.7	0.3	2.8	0.4	0.9	0.5	1.2
Py	6.1	2.2	2.0	2.8	1.8	3.1	4.5	3.6	4.7	1.7	3.4
1954—1959											
P	9.8	3.3	4.2	3.5	3.0	2.9	6.6	4.0	5.6	1.8	4.2
E	2.0	1.1	2.3	0.5	0.5	0.4	2.9	0.7	1.8	0.2	1.3
Py	7.6	2.2	1.8	3.0	2.5	2.5	3.6	3.3	3.8	1.6	2.9

Source : Appendix III.

Key : SY = Starting year of series. P = Total product. PY = Peak year before depression. E = Employment. TY = Trough of depression. Py = Product per man year.

(a) SY—1959 is average of 1851/60-1901/10 and 1913-1959 ; SY—1913 is 1851/60-1901/10.

(b) 1923 for Sweden and 1925 for Germany.

(c) 1938 for Japan.

(d) No direct estimates could be made for the years before 1950 of changes in employment for France, Italy or Japan (see page 45). The figures under E are for changes in the labour force, including the unemployed. This means that the figures given for employment and product per man-year during cyclical recessions and recoveries are likely to be especially misleading in these countries.





# STATISTICAL APPENDIX

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## *Symbols and conventions used*

.. = not available.

— = nil or less than half the final digit shown.

billion = thousand millions.

Items may not always add to totals, because of rounding.

A horizontal bar across a column indicates a discontinuity in the series.

*Italics* are used where NIESR has added estimates to figures published elsewhere—for instance, when an estimated later figure is added.



Table 1. Gross domestic product

Seasonally adjusted

	Final expenditure at market prices									Gross domestic product at factor cost	Output				
	Con- sumers' expendi- ture (a)	Public authori- ties' current spending	Gross fixed invest- ment (b)	Value of physical stock change	Exports of goods and services	Total final expen- diture	Less Imports of goods and services	Less Adjust- ment to factor cost (c)	Statistical discre- pancy		Gross domestic product	Indus- trial produc- tion (d)	Agri- culture, etc.	Trans- port, commu- nication	Distrib- ution, other ser- vices
	£ million, 1954 prices, quarterly averages										Index numbers, 1954 = 100				
1948	2,677	592	467	+ 59	656	4,451	738	449	+ 68	3,332	85	79.0	84	87	90
1949	2,735	632	510	+ 9	729	4,615	795	455	+ 90	3,455	88	83.6	90	89	91
1950	2,813	637	535	- 60	840	4,765	807	465	+ 88	3,589	91	88.3	92	92	94
1951	2,773	688	535	+141	854	4,991	902	485	+ 52	3,664	93	91.3	94	96	94
1952	2,758	762	537	+ 10	846	4,913	827	469	+ 7	3,631	92	89.2	97	96	94
1953	2,874	785	595	+ 33	843	5,130	879	490	+ 9	3,778	96	94.3	99	98	97
1954	3,014	784	647	+ 22	905	5,372	913	515	—	3,944	100	100.0	100	100	100
1955	3,160	766	679	+ 72	1,026	5,703	1,090	535	+ 8	4,086	104	105.1	99	102	103
1956	3,192	770	712	+ 69	1,080	5,822	1,145	535	- 25	4,117	104	105.6	105	104	103
1957	3,263	746	742	+ 60	1,102	5,913	1,155	544	- 22	4,192	106	107.5	107	104	105
1958	3,347	740	751	+ 28	1,067	5,933	1,138	569	- 30	4,196	106	106.3	106	103	107
1959	3,482	753	797	+ 43	1,100	6,174	1,231	610	+ 68	4,401	112	112.6	111	106	112
1960	3,604	775	873	+140	1,155	6,547	1,368	653	+108	4,634	118	120.3	116	110	116
1958 I	3,323	747	755	+ 29	1,077	5,931	1,127	563	- 48	4,193	106	107	107	103	106
II	3,319	735	748	- 18	1,025	5,809	1,091	574	+ 29	4,173	106	106	107	103	106
III	3,336	746	750	+ 65	1,088	5,985	1,158	570	- 76	4,181	106	105	105	103	107
IV	3,409	732	752	+ 37	1,077	6,007	1,176	568	- 26	4,237	107	107	105	104	109
1959 I	3,406	737	763	- 21	1,045	5,930	1,201	588	+120	4,261	108	109	105	104	110
II	3,503	757	790	+ 33	1,090	6,173	1,211	609	+ 7	4,360	111	111	105	105	111
III	3,468	763	807	+ 60	1,110	6,208	1,215	620	+ 66	4,439	113	114	116	107	112
IV	3,551	755	828	+ 98	1,153	6,385	1,295	623	+ 78	4,545	115	117	116	108	114
1960 I	3,593	784	861	+ 85	1,165	6,488	1,328	648	+ 94	4,606	117	120	116	110	115
II	3,632	771	856	+175	1,151	6,585	1,356	654	+ 67	4,642	118	121	116	110	116
III	3,593	746	892	+137	1,150	6,516	1,389	650	+161	4,638	118	121	116	110	116
IV	3,597	799	881	+166	1,155	6,598	1,398	658	+108	4,650	118	120	116	111	116
1961 I	3,665	840	917	+ 66	1,195	6,683	1,400	650	+ 27	4,660	118	120	116	112	117

(a) For details see table 11. (b) For details see table 12. (c) Net indirect taxes at 1954 rates. (d) For details see table 2.

Table 2. Production in industry

Index numbers, 1954 = 100, seasonally adjusted

	Total indus- trial produc- tion	Total manu- fac- turing	Metals, metal-using				Textiles	Cloth- ing	Chem- icals	Paper- printing	Food, drink, tobacco	Other manu- facturing	Mining	Con- struc- tion	Elec- tricity, gas, water
			Total	Engin- eering	Vehi- cles	Ship- build- ing									
Weights	1,000	760	374	164	78	22	77	33	63	53	82	79	72	120	48
1948	79.0	77.3	75.6	69.4	61.4	116.5	85.5	88.2	68.0	65.8	87.4	77.6	90.8	86.7	69.0
1949	83.6	82.2	80.0	75.9	71.2	106.1	92.1	96.6	70.2	75.1	90.9	82.0	93.8	90.7	73.8
1950	88.3	87.8	85.1	84.5	76.4	93.5	100.1	101.2	79.7	86.5	90.1	88.4	94.8	90.8	80.4
1951	91.3	91.6	90.3	90.5	79.9	96.2	99.8	95.7	83.7	91.3	93.1	93.1	98.0	87.3	85.5
1952	89.2	88.2	91.3	92.4	79.5	99.2	81.9	91.7	79.6	76.7	94.7	86.2	99.3	90.0	88.1
1953	94.3	93.7	93.4	93.6	90.4	105.1	97.4	100.3	89.1	85.7	98.5	92.6	98.8	96.3	92.5
1954	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1955	105.1	106.4	109.6	107.4	114.6	108.5	97.5	103.7	106.2	107.7	102.7	104.5	99.0	100.3	105.4
1956	105.6	105.9	108.3	107.0	107.2	117.4	96.4	105.8	110.6	106.3	105.5	100.3	99.2	105.8	110.2
1957	107.5	108.3	111.4	111.0	114.9	107.9	96.5	105.1	115.0	109.1	106.9	101.4	98.5	105.5	114.3
1958	106.3	106.9	110.3	111.5	118.4	108.8	87.1	101.5	115.0	111.2	109.4	100.1	94.3	105.0	119.2
1959	112.6	114.1	116.7	118.2	129.0	101.0	92.0	111.7	131.2	116.9	113.6	107.3	91.8	111.3	123.2
1960	120.3	122.9	126.6	127.0	139.2	91.9	95.5	120.0	145.2	132.5	117.4	114.7	89.1	117.6	133.2
1959 I	108	108	110	111	124	107	86	105	125	115	112	102	91	110	121
II	111	113	116	117	129	101	91	107	131	115	114	106	94	109	122
III	114	115	117	121	122	100	94	115	133	113	115	110	92	112	122
IV	117	120	125	124	141	97	97	119	137	125	113	111	91	114	128
1960 I	120	122	127	127	145	94	94	113	140	129	116	114	91	116	131
II	121	124	128	127	143	93	96	119	144	133	117	116	88	117	128
III	121	123	127	126	139	91	96	121	149	132	117	115	89	118	134
IV	120	122	124	128	130	89	96	127	147	136	119	112	88	120	140
1961 I	121	123	125	130	132	93	92	118	148	135	122	115	86	123	135
January	120	121	124	127	129	91	90	114	147	133	122	115	89	121	139
February	121	123	126	131	133	92	92	116	149	138	122	115	85	124	132
March	121	124	126	132	134	95	95	123	148.	133	123	115	85	123	133
April	122	125	128	135	134	95	95	126	147	138	121	116	87	124	134
May	122	124	127	134	136	94	93	118	149	132	121	116	87	123	140

Table 3. The metals and engineering industries

Table 4. Energy

53

Quarterly rates, seasonally adjusted

Quarterly rates, seasonally adjusted

Quarterly rates, seasonally adjusted

	Steel		Passenger cars			Com- mercial vehicles output	Selected con- sumer durables	Deliveries of plant and machinery(a)	
	Output	Con- sump- tion	Output	New regi- stra- tions	Exports			Electrical	Other
	000 tons ingot equivalent		thousands		'000	1954 = 100	£ million		
8	3,719	3,353	84	28	57	43	37	..	..
9	3,888	3,550	103	38	65	54	44	..	..
0	4,073	3,710	131	33	99	65	67	..	..
1	3,910	3,772	119	36	92	64	79	..	..
2	4,104	3,825	112	47	78	60	63	..	..
3	4,402	3,915	149	74	77	60	76	..	..
4	4,630	4,190	192	97	94	67	100	..	..
5	4,948	4,470	224	126	97	85	111	..	..
6	5,165	4,617	177	100	84	74	88	..	..
7	5,425	4,655	215	107	106	72	105	..	..
8	4,892	4,459	263	139	121	78	118	72	325
9	5,047	4,472	297	162	142	93	163	74	336
0	6,076	5,067	338	202	142	114	144	78	369
59 I	4,468	4,130	255	151	119	77	141	68	320
II	4,915	4,525	293	158	142	91	173	73	346
III	5,070	4,514	282	149	140	100	171	72	321
IV	5,733	4,726	360	188	169	102	166	83	358
60 I	6,011	4,875	384	222	181	108	170	77	362
II	6,002	5,177	380	220	162	117	161	77	369
III	6,065	5,127	347	216	127	118	137	72	350
IV	6,227	5,091	242	148	99	116	111	86	395
61 I	6,010	5,003	210	207	84	119	115	82	394
II	5,866		266	208	84	120			
January	6,164		186	174	93	116			
February	6,043		188	218	86	121			
March	5,822		255	228	72	121			
April	5,889		238	200	86	121			
May	5,885		274	202	72	120			
June	5,826		285	224	94	120			

a) Unadjusted.

Quarterly rates, seasonally adjusted					
		Inland consumption			Elec- tricity gener- ated(c)
		Coal	Oil(a)	Total primary fuel(b)	
		million tons			bn.kWh
1948		48.1	3.2	53.1	11.5
1949		48.7	3.4	53.7	12.2
1950		50.4	3.8	56.2	13.6
1951		52.5	4.2	58.2	14.9
1952		51.9	4.4	58.0	15.5
1953		52.0	4.7	59.0	16.4
1954		53.5	5.3	61.5	18.2
1955		53.7	5.8	62.5	22.8
1956		54.3	6.3	63.5	24.6
1957		53.2	6.2	61.7	25.7
1958		50.5	7.8	62.1	27.5
1959		47.4	9.1	61.5	29.4
1960		49.2	10.7	66.5	33.3
1959	I	49.3	8.5	62.8	28.4
	II	46.8	9.1	60.6	29.2
	III	45.5	9.1	59.4	29.3
	IV	47.8	9.7	63.3	30.8
1960	I	49.7	10.3	67.0	32.2
	II	46.9	10.4	63.0	32.3
	III	49.0	10.6	65.9	33.7
	IV	51.3	11.3	70.0	34.9
1961	I	48.6	11.4	67.1	34.1
January		51.1	11.6	70.3	35.4
February		48.8	11.1	67.1	33.2
March		45.8	11.4	63.8	33.6
April		45.9	11.6	63.9	34.3
May		47.3			35.6

(a) Deliveries to consumers. (b) In coal equivalent.  
(c) Great Britain. Before 1955 excluding generation outside the public system.

Table 5. New orders and orders on hand

	Engineering(a)						Machine tools(d)		Shipbuilding		Textiles and clothing		Factory building approvals (i)	Housing starts (j)	Architects new work (k)
	Total		For export		For home market		Net new orders, £ mn(e)		Merchant vessels, 000 gross tons		Net new orders (g)	Orders on hand (h)			
	Net new orders (b)	Orders on hand (c)	Net new orders (b)	Orders on hand (c)	Net new orders (b)	Orders on hand (c)	Total	For home market	New orders (e)	Orders on hand(f)					
1954	..	97	..	93	..	99	18.6	13.9	159	4,333	..	..	17.7	84.1	..
1955	..	106	..	96	..	109	23.6	18.8	582	5,287	..	..	22.8	79.6	..
1956	..	104	..	103	..	105	20.9	15.3	619	6,442	..	..	17.8	71.2	..
1957	..	101	..	101	..	101	18.8	13.6	420	6,828	..	..	15.9	70.4	..
1958	91	88	89	86	92	89	14.9	10.6	124	5,430	..	..	11.4	66.0	84
1959	107	90	104	88	108	90	20.1	15.5	80	4,169	..	135	14.5	81.3	100
1960	125	104	121	103	126	104	36.1	27.6	157	3,348	102	136	22.3	79.0	125
1959 I	99	87	96	84	100	88	15.5	11.3	55	5,103			16.1	83	108
II	109	87	104	84	110	88	19.8	16.4	44	4,734	105	107	13.7	80	90
III	100	87	97	84	101	88	21.2	16.4	48	4,473	108	119	12.7	80	92
IV	121	90	121	88	120	90	23.8	17.9	172	4,169	122	135	15.7	82	110
1960 I	137	97	129	95	140	98	39.9	30.9	196	4,044	106	135	35.8	76	147
II	120	99	115	97	122	100	36.4	29.1	158	3,780	103	135	19.4	84	109
III	119	104	118	102	119	104	35.3	26.2	63	3,494	89	130	17.9	78	111
IV	122	104	124	103	121	104	32.7	24.3	210	3,348	112	136	16.2	78	133
1961 I	144	112	134	108	148	113	33.0	25.0	131	3,080	95	128	16.4	84	110
II													11.3		
January	125	105	120	105	127	105	37.0	28.2			90	135			
February	148	108	131	105	154	109	27.5	20.8			100	134			
March	160	112	150	108	164	113	34.3	26.1			94	128			
April	143	114	99	107	159	117	29.3	21.4			98	128			
May	117	114	118	108	117	116					91	125			

(a) Including certain heavy vehicles. (b) Adjusted for the lengths of calendar months, average deliveries 1958 = 100, at 1958 prices. (c) At end of period, January 1958 = 100, at 1958 prices. (d) These are included in the previous columns. (e) Quarterly rates. (f) At end of period. (g) Adjusted for the lengths of calendar months, average deliveries 1959 = 100, at 1958 average prices. (h) At end of period, April 1959 = 100, at 1958 average prices. (i) Area, mn. sq. ft.; Gt. Britain only; quarterly rates, seasonally adjusted. (j) Quarterly rates, seasonally adjusted. (k) At 1954 prices.



Table 6. The labour market

Seasonally adjusted

Millions in 1954	Employment											Demand for labour			New over-time per head in manufacturing (a)
	Total civil employ-ees	Agri-culture etc.	Trans-port, com-munica-tion	Distri-bution and other services	Total indus-trial produc-tion	Con-struc-tion	Mining	Total manu-factur-ing	Metals, metal-using	Textiles	Other indus-tries	Unem-employment	Unfilled vacan-cies	Excess demand (a)	
	Index numbers, 1954 = 100											Percentage of employees			
	21.07	0.72	1.67	7.30	11.38	1.31	0.87	8.83	4.31	0.99	3.90				Week-hour
1948	94.4(c)	113.7(c)	103.6(c)	94.4(c)	91.8(c)	98.2(c)	100.9(c)	90.2(c)	90.2(c)	94.0(c)	88.8(c)	1.50	2.30	0.68	..
1949	95.1	109.4	103.5	94.6	93.3	98.3	100.5	92.0	90.0	97.8	92.6	1.52	1.95	0.42	..
1950	96.5	111.0	103.1	95.3	95.3	98.4	98.0	94.6	91.8	102.1	95.8	1.53	1.77	0.27	..
1951	97.5	106.4	102.2	95.8	97.3	98.9	98.4	97.0	94.5	103.4	98.0	1.19	2.01	0.69	..
1952	97.4	104.0	102.0	96.4	96.9	97.8	100.6	96.2	96.9	93.8	96.4	1.99	1.34	-0.27	1.0
1953	98.0	101.1	100.7	97.3	97.9	98.6	100.8	97.4	97.1	98.2	97.8	1.64	1.33	-0.04	1.8
1954	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	1.34	1.56	0.29	2.0
1955	101.3	97.8	99.3	100.8	102.2	102.0	99.4	102.6	104.6	96.6	101.7	1.08	1.91	0.73	2.1
1956	102.1	91.6	99.5	102.4	102.9	105.0	99.1	103.1	105.9	94.4	101.9	1.19	1.66	0.46	1.9
1957	102.5	91.2	99.9	103.4	103.0	104.3	100.1	103.1	109.0	93.7	102.0	1.43	1.27	0.01	1.9
1958	101.8	89.5	98.6	104.3	101.5	102.3	98.7	101.7	105.5	87.9	101.0	2.10	0.90	-0.67	1.4
1959	102.4	88.0	97.0	106.2	101.5	103.3	94.5	102.1	105.9	85.7	101.8	2.17	1.02	-0.62	1.9
1960	104.4	85.6	96.7	108.1	104.1	106.3	87.6	105.9	111.4	85.4	104.5	1.60	1.40	-0.08	2.3
1960 I	103.5	86.3	96.4	107.0	103.1	105.2	90.3	104.4	109.4	85.3	103.4	1.70	1.28	-0.15	2.2
1960 II	104.0	85.0	96.4	107.6	103.9	105.8	88.1	105.6	111.1	85.4	104.2	1.56	1.41	-0.07	2.4
1960 III	104.8	84.4	96.6	108.6	104.7	106.9	86.5	106.7	112.4	85.5	105.2	1.55	1.45	-0.05	2.4
1960 IV	105.2	86.7	97.5	109.1	104.8	107.4	85.7	106.7	112.5	85.5	105.3	1.59	1.46	-0.05	2.3
1961 I	105.1	82.9	97.8	108.9	104.9	108.8	85.3	106.6	112.4	84.9	105.3	1.49	1.46	-0.02	2.2
1961 II												1.36	1.52	0.03	2.2
February	105.1	83.4	97.8	108.9	104.9	109.2	85.4	106.6	112.4	84.9	105.3	1.47	1.46	-0.02	
March	105.2	82.0	97.9	109.1	105.0	109.6	84.9	106.8	112.6	84.9	105.4	1.40	1.49	0.02	
April	105.2	80.7	97.9	109.3	105.0	108.3	84.7	107.0	113.0	84.8	105.6	1.41	1.48	0.02	
May	105.2	80.7	98.0	109.3	105.0	108.1	84.2	107.1	113.3	84.6	105.5	1.33	1.55	0.04	
June												1.33	1.53	0.04	
July												1.36	1.51	0.03	

(a) NIESR index based on unemployment and vacancies.

(b) Not seasonally adjusted.

(c) End-June, seasonally adjusted.

Table 7. Unemployment by industry

Percentage of total employees, seasonally adjusted

	Metals, metal-using	Textiles	Con-struc-tion	Mining	Trans-port, services	Other
1948	1.54	0.66	2.64	0.32	1.62	1.27
1949	1.34	0.66	2.90	0.30	1.72	1.28
1950	1.18	0.60	2.83	0.33	1.80	1.37
1951	0.83	0.83	2.05	0.26	1.46	1.15
1952	1.17	8.44	2.83	0.26	1.86	1.79
1953	1.33	1.35	2.86	0.28	1.86	1.46
1954	0.92	0.92	2.50	0.25	1.58	1.23
1955	0.63	1.64	1.76	0.19	1.27	1.01
1956	0.94	1.41	2.01	0.21	1.30	1.09
1957	1.07	1.13	2.83	0.31	1.60	1.29
1958	1.76	3.96	4.00	0.57	2.09	1.82
1959	1.79	2.70	4.63	0.98	2.15	1.89
1960	1.13	1.63	3.09	0.84	1.76	1.29
1959 I	2.21	4.37	4.73	0.84	2.16	2.04
1959 II	1.97	2.70	4.50	0.95	2.18	1.90
1959 III	1.56	1.86	4.78	1.04	2.23	1.87
1959 IV	1.42	1.88	4.49	1.10	2.05	1.76
1960 I	1.11	1.92	3.11	0.91	1.91	1.38
1960 II	0.97	1.61	3.16	0.86	1.77	1.26
1960 III	1.00	1.43	3.12	0.82	1.74	1.26
1960 IV	1.45	1.55	2.96	0.76	1.63	1.28
1961 I	1.60	1.38	2.25	0.61	1.59	1.09
1961 II	1.03	1.05	2.64	0.58	1.55	1.04
February	1.65	1.35	2.09	0.55	1.57	1.09
March	1.27	1.25	2.23	0.61	1.58	1.02
April	1.13	1.07	2.65	0.62	1.58	1.07
May	1.03	1.04	2.62	0.58	1.52	1.01
June	0.95	1.03	2.64	0.55	1.54	1.05

Table 8. Productivity

Index numbers, 1954 = 100, seasonally adjusted

	Output per person employed in						Output per man-hour worked (a)
	gross domestic product	total indus-trial produc-tion	total manu-factur-ing	metals, metal-using	textiles	mining	
1948	89	86	86	84	91	90	88
1949	92	90	89	89	94	93	92
1950	95	93	93	93	98	97	94
1951	95	94	94	96	97	100	96
1952	94	92	92	94	87	99	93
1953	97	96	96	96	99	98	97
1954	100	100	100	100	100	100	100
1955	102	103	104	105	101	100	103
1956	103	103	103	102	102	100	103
1957	105	104	105	102	103	98	106
1958	106	105	105	105	99	96	107
1959	111	111	112	110	107	97	112
1960	115	116	116	114	112	102	118
1959 I	108	107	107	105	101	94	109
1959 II	110	110	111	110	106	98	112
1959 III	111	111	112	110	108	98	113
1959 IV	114	114	115	116	112	99	116
1960 I	115	116	117	116	112	100	117
1960 II	115	116	117	115	112	100	119
1960 III	114	115	115	113	112	103	119
1960 IV	114	115	115	111	110	103	118
1961 I	115	115	115	112	109	101	119
January		114	114	110	105	104	
February		115	115	112	109	100	
March		115	116	112	111	100	
April		116	117	114	112	102	
May		116	116	112	110	104	

(a) In manufacturing.

Table 9. Prices

Index numbers, 1954 = 100

	Capital goods				Export prices	Retail prices	Consumer goods and services								Total final prices
	All assets	Plant, vehicles, etc.	Dwellings	Other building			Total	Food	Drink, tobacco	Housing (inc. rent and rates)	Durable goods	Clothing	All other goods	Services	
3	78	76	79	81	78	75.7	79.6	67.3	99.2	79.4	84.9	82.2	82.9	79.6	78.1
9	79	78	80	81	81	77.8	81.2	70.7	98.1	80.9	83.6	85.6	83.6	81.3	80.3
0	81	81	81	81	85	79.9	83.3	74.6	97.0	83.1	87.0	86.6	85.7	83.8	82.7
1	89	87	94	91	100	87.6	91.2	83.2	98.3	88.4	99.1	100.4	95.4	90.2	92.7
2	99	97	104	100	105	95.3	96.5	92.5	99.6	92.5	106.2	100.1	100.5	95.4	98.4
3	100	100	101	100	101	98.3	98.2	96.2	99.8	97.3	102.4	99.2	99.3	97.9	98.8
4	100	100	100	100	100	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
5	105	104	106	106	102	104.5	103.4	106.0	100.5	103.5	101.3	100.6	103.1	103.9	103.5
6	111	110	112	111	106	109.7	108.0	110.1	103.9	107.7	108.2	102.5	109.3	109.8	108.8
7	115	116	113	115	111	113.8	111.1	112.5	106.3	114.9	110.0	104.1	113.6	113.8	112.7
8	119	119	115	119	110	117.2	114.1	114.0	108.6	128.3	109.9	105.0	115.7	118.8	115.3
9	117	119	112	117	109	117.8	114.6	115.2	106.3	135.4	107.7	104.5	115.4	120.6	115.8
0	117	120	112	116	111	119.1	115.4	115.0	107.6	140.2	107.3	106.2	115.1	123.3	116.9
9 I	118	120	112	117	109	118.6	115.3	115.3	108.5	134.0	110.3	104.1	116.2	119.6	116.3
II	117	119	112	117	109	117.5	114.5	116.0	105.4	134.8	107.4	104.4	115.1	120.1	115.8
III	118	119	113	118	108	117.2	114.3	113.8	105.4	136.0	106.8	104.8	115.7	121.3	115.6
IV	117	119	111	117	110	118.1	114.2	115.6	106.3	136.7	106.5	104.6	114.6	121.4	115.6
0 I	115	118	110	115	111	118.1	114.8	114.5	105.8	137.5	106.7	105.6	115.5	121.9	115.9
II	116	119	111	116	111	118.8	115.7	116.7	108.2	139.9	107.2	105.8	114.2	123.3	116.9
III	118	121	113	117	111	119.0	115.4	113.8	108.0	140.6	107.6	106.4	114.5	124.0	116.9
IV	119	121	114	117	111	120.3	115.8	115.0	108.1	142.9	107.9	106.7	116.0	123.9	117.6
1 I	119	121	115	117	112	120.9	116.6	115.6	107.6	143.2	108.2	106.8	117.1	124.3	118.3
January					112	120.8	116.5	115.8	107.6	142.8	108.1	106.6	116.2	123.9	
February					112	120.8	116.5	115.6	107.6	143.2	108.3	106.8	116.3	124.2	
March					112	121.2	116.9	115.5	107.6	143.5	108.3	107.0	118.9	124.8	
April					112	121.8	117.6	116.1	107.6	146.0	108.5	107.1	119.2	125.7	
May					112	122.2	117.9	117.7	107.6	146.4	108.6	107.2	116.7	126.0	
June					122	123.2									

Table 10. Wages, profits and other costs

Index numbers, 1954 = 100

	Weekly wage rates	Wage rates by industry						Income from employment <sup>(a)</sup>		Profits of companies and public corporations <sup>(a)</sup>	All property income <sup>(a)</sup>		Import prices	Materials used in manufacturing industry	Prices of all manufactured products
		Metals, metal-using	Textiles	Mining	Construction	Agriculture, forestry, fishing	Other industries and services	Total	Per unit of output		Total	Per unit of output			
48	74.6	73.5	73.5	74.6	72.8	75.1	74.9	66.0	78.1	65.3	70.1	83.0	73	..	..
49	76.7	76.0	77.0	74.7	74.7	77.8	76.9	70.4	80.4	68.2	73.1	83.4	74	..	..
50	78.1	76.9	79.4	75.5	76.6	79.0	78.4	74.1	81.4	79.2	81.5	89.6	85	..	..
51	84.6	83.5	87.1	83.3	83.0	84.5	84.7	82.5	88.8	93.6	90.0	96.9	113	..	..
52	91.6	91.5	93.0	92.4	90.5	91.7	91.6	88.7	96.3	83.8	85.2	92.5	111	..	..
53	95.8	95.8	96.7	95.5	95.4	95.9	95.9	93.7	97.8	89.9	91.2	95.2	101	..	..
54	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100	100.0	100.0
55	106.9	106.8	104.9	107.3	106.2	105.6	106.3	109.3	105.5	109.9	107.4	103.7	103	103.0	102.6
56	115.4	115.5	110.6	117.7	114.2	113.8	114.7	119.2	114.2	113.7	111.9	107.2	105	106.7	107.0
57	121.2	121.1	114.9	124.1	120.5	119.1	120.6	126.0	118.5	118.6	116.9	110.0	107	107.4	110.4
58	125.4	125.4	118.5	126.6	125.5	126.4	125.4	130.7	122.8	116.0	119.1	111.9	99	100.8	111.1
59	128.7	129.0	120.6	130.4	128.9	130.6	128.7	136.7	122.5	129.9	129.7	116.2	98	101.7	111.5
60	132.1	130.9	125.6	131.7	132.4	133.9	132.9	146.2	124.5	141.8	139.1	118.5	99	101.8	113.0
60 I	130.5	130.1	122.5	130.6	129.2	131.8	130.8	141.3	121.0	148.2	141.2	120.9	100	103.0	111.9
II	131.8	130.8	125.7	130.6	132.2	134.5	132.0	145.8	123.9	144.0	140.0	118.9	99	102.5	112.9
III	132.5	131.0	126.5	131.7	133.8	134.5	133.2	148.4	126.2	139.6	138.3	117.6	98	101.0	113.5
IV	133.5	131.8	127.6	133.8	134.2	134.7	135.4	149.2	126.5	135.1	136.9	116.1	99	100.9	113.8
61 I	136.1	135.4	129.9	139.3	135.9	141.6	136.6	152.0	128.6				97	100.7	114.7
II													98	101.3	115.4
January	135.9	134.9	128.2	139.2	134.9	141.0	136.2						98	100.6	114.3
February	136.1	135.0	130.7	139.3	136.3	141.9	136.8						97	100.7	114.6
March	136.3	136.2	130.9	139.3	136.5	141.9	136.8						97	100.9	115.1
April	136.7	136.3	131.5	139.3	136.5	141.9	137.3						98	101.4	115.2
May	136.9	136.3	131.7	139.4	136.5	141.9	137.9						99	101.5	115.4
June													98	101.1	115.5

Seasonally adjusted.



				Consumers' expenditure											Serv
				Total	Food	Alco- holic drinks	Tobacco	Housing (inc. rent and rates)	Fuel, light	Cloth- ing	Durable goods			All other goods	
											Cars, motor cycles	Furni- ture, etc.	Radio, electric, etc.		
	Dispos- able income	Total personal savings	Con- sumers' expend- iture	at current prices			at 1954 prices								
1948	2,158	28	2,130	2,677	834	201	200	235	109	274	13	56	36	238	4
1949	2,277	57	2,220	2,735	866	194	194	234	108	296	16	68	40	260	4
1950	2,394	50	2,344	2,813	905	198	196	238	113	307	17	77	45	271	4
1951	2,594	66	2,528	2,773	887	204	202	239	117	278	16	71	50	263	4
1952	2,818	156	2,662	2,758	878	202	206	244	115	274	23	62	48	264	4
1953	3,000	179	2,821	2,874	911	205	209	252	117	281	40	70	60	288	4
1954	3,158	144	3,014	3,014	946	205	214	263	122	301	55	77	74	310	4
1955	3,440	173	3,267	3,160	971	215	219	257	124	322	75	72	82	337	4
1956	3,706	260	3,446	3,192	993	220	222	261	129	336	58	70	74	345	4
1957	3,871	245	3,626	3,263	1,010	224	228	264	127	346	67	75	82	353	4
1958	4,042	223	3,819	3,347	1,028	224	233	268	137	345	89	80	90	372	4
1959	4,247	258	3,989	3,482	1,048	238	238	270	136	360	115	88	107	394	4
1960	4,531	371	4,160	3,604	1,069	252	245	275	148	384	132	84	99	423	4
1958 I	4,013	239	3,774	3,323	1,025	229	231	266	137	341	82	78	87	367	4
1958 II	4,014	229	3,785	3,319	1,022	221	235	267	139	341	88	76	86	364	4
1958 III	4,041	223	3,818	3,336	1,030	220	232	268	132	347	85	79	85	374	4
1958 IV	4,101	202	3,899	3,409	1,035	225	232	269	139	352	101	88	100	381	4
1959 I	4,133	206	3,927	3,406	1,040	222	230	269	139	350	94	85	101	388	4
1959 II	4,261	279	3,982	3,503	1,054	239	240	269	135	362	113	91	115	394	4
1959 III	4,266	288	3,978	3,468	1,049	239	241	271	130	353	109	89	112	386	4
1959 IV	4,329	260	4,069	3,551	1,047	250	239	271	138	375	145	88	99	409	4
1960 I	4,393	269	4,124	3,593	1,063	240	246	273	144	372	147	91	112	415	4
1960 II	4,558	378	4,180	3,632	1,067	257	248	274	141	387	148	88	108	420	4
1960 III	4,589	436	4,153	3,593	1,063	251	245	275	151	386	135	80	91	421	4
1960 IV	4,583	400	4,183	3,597	1,082	260	242	277	155	392	99	76	85	434	4
1961 I			4,273	3,665	1,073	272	252	278	149	389	119	84	96	449	50

Table 12. Fixed investment

£ million, 1954 prices, quarterly averages, seasonally adjusted

	Total	Dwellings		Industries and services											Com- merci- al new registra- tions
		Public	Private	Total	By type of asset			By sector		By industry(a)					
					Plant, mach- inery	Vehi- cles, ships, air- craft	Build- ings, works	Public	Private	Manu- fac- turing (b)	Fuel, power (c)	Public services (c)	Trans- port, com- muni- cations(c)	Other indus- tries services (b) (c)	
1949	510	87	17	406	181	98	127	151	255	121	65	35	46	125	28
1950	535	86	16	433	202	88	143	166	267	140	70	42	44	123	24
1951	535	84	16	435	218	78	139	187	248	148	70	45	43	116	23
1952	537	95	24	418	207	70	141	196	222	142	72	44	40	109	22
1953	595	113	42	440	209	83	148	212	227	145	81	46	44	121	26
1954	647	105	56	486	232	91	163	220	266	138	96	48	47	139	29
1955	679	85	60	534	250	104	180	224	310	161	102	49	49	162	40
1956	712	77	63	572	256	111	205	236	336	189	97	57	57	160	39
1957	742	72	63	607	272	117	218	253	354	198	101	61	68	168	36
1958	751	60	67	624	276	123	225	256	368	188	105	66	67	186	44
1959	797	61	84	652	280	132	240	282	370	179	116	76	70	198	49
1960	873	63	101	709	293	146	270	298	411	209	113	84	76	212	58
1958 I	755	65	63	627	276	130	221	265	362	191	110	68	66	187	44
1958 II	748	62	65	621	275	120	226	253	368	191	97	61	66	178	44
1958 III	750	58	68	624	274	122	228	252	372	189	101	65	61	183	44
1958 IV	752	56	73	623	278	119	226	253	370	182	111	69	74	198	45
1959 I	763	61	77	625	271	128	226	261	364	179	109	77	63	194	45
1959 II	790	59	80	651	281	137	233	270	381	177	104	70	62	206	48
1959 III	807	62	87	658	278	134	246	294	364	176	116	78	69	187	51
1959 IV	828	61	93	674	288	130	256	304	370	184	135	80	86	204	53
1960 I	861	63	92	706	294	149	263	312	394	193	129	89	77	214	59
1960 II	856	63	104	689	277	149	263	276	413	200	97	75	69	214	59
1960 III	892	63	103	726	302	144	280	311	415	225	108	83	76	202	57
1960 IV	881	62	105	714	299	142	273	291	423	220	117	87	83	218	58
1961 I	917	62	103	752	316	156	280	321	431	232	124	99	69	225	61
1961 II															60

(a) Excluding legal fees, etc. (which are included in the other columns) of which the industry distribution is not known.

(b) Figures from 1956 onwards are on a business unit basis and are not fully comparable with those for earlier years.

(c) Not seasonally adjusted.

Table 13. Contractors' orders and work done  
£ million, 1954 prices, quarterly averages

£ million, 1954 prices, quarterly averages					
	Total	New housing	Other new work		
			Public	Indus- trial	Miscell- aneous
Orders received by contractors					
57	294	118	86	47	43
58	276	115	81	40	40
59(a) I	354	172	87	47	48
II	346	146	95	55	50
III	325	147	82	48	48
IV	380	161	107	60	52
60 I	422	176	116	72	58
II	398	158	105	79	56
III	390	156	97	72	65
IV	415	170	108	74	63
61 I	445	175	133	71	66
Work done by contractors(b)					
55	275	129	67	50	29
56	301	128	76	61	36
57	303	123	81	59	40
58	301	114	88	57	42
59(a) I	325	124	95	60	46
II	322	122	96	59	45
III	339	131	98	62	48
IV	339	134	93	62	50
60 I	344	136	92	66	50
II	356	142	90	71	53
III	362	139	93	76	54
IV	373	140	96	79	58
61 I	380	143	99	83	55

(a) From the beginning of 1959 the figures are given according to the Revised Standard Industrial Classification 1958.  
(b) Seasonally adjusted.

Table 14. Changes in the volume of stocks  
£ million, 1954 prices, quarterly averages, seasonally adjusted

	Total stocks	Manufacturing and distribution						
		Total	Manufacturing				Distribution	
			Total	Materials and fuel (a)	Work in progress (a)	Finished goods (a)	Wholesale	Retail
Value at end 1960 £ billion	9.1	6.8	5.1	2.1	1.7	1.3	0.8	0.9
1955	+ 72	..	+ 63	+26	+ 8	+29	..	+ 9
1956	+ 69	+ 62	+ 55	+13	+25	+17	+ 3	+ 4
1957	+ 60	+ 64	+ 43	+12	+19	+12	+11	+10
1958	+ 28	+ 20	+ 12	-21	+ 5	+28	+ 4	+ 4
1959	+ 43	+ 29	+ 14	+ 9	+ 6	- 1	+ 4	+11
1960	+140	+135	+115	+49	+30	+37	+11	+ 9
1957 I	+130	+105	+ 62	+36	+28	+43	+27	+16
II	+ 85	+ 67	+ 33	-30	+55	+28	+22	+12
III	+ 25	+ 50	+ 54	+38	+27	-32	- 7	+ 3
IV	+ 15	+ 35	+ 23	+ 3	-35	+11	+ 2	+10
1958 I	+ 29	+ 20	+ 23	-22	+18	+74	- 5	+ 2
II	- 18	- 25	- 3	-61	+17	+63	-18	- 4
III	+ 65	+ 61	+ 29	+14	+ 3	-15	+24	+ 8
IV	+ 37	+ 24	..	-13	-20	- 9	+15	+ 9
1959 I	- 21	- 33	- 41	- 3	- 3	+14	+15	- 7
II	+ 33	+ 8	- 25	- 1	+12	-15	..	+33
III	+ 60	+ 34	+ 35	+39	+12	-41	+ 2	- 3
IV	+ 98	+108	+ 87	- 1	+ 4	+39	..	+21
1960 I	+ 85	+ 81	+ 54	+29	+18	+56	- 1	+28
II	+175	+153	+110	+46	+57	+28	+11	+32
III	+137	+146	+146	+95	+21	+ 2	+21	-21
IV	+166	+161	+151	+25	+23	+61	+15	- 5
1961 I	+ 66	+ 70	+ 11	+18	+17	+25	+32	+27

(a) Unadjusted.

Table 15. Finance

£ million, quarterly rates

	Hire purchase			Bank advances(a)				Marketable debt of the public sector(a)				Short term interest on treasury bills, per cent	
	New credits extended	Repayments	Change in debt	Total	Industry and transport	Finance	Personal and professional	Treasury bills		Gilt-edged stocks		London	New York
								Banking	Private and overseas	Banking	Private and overseas		
£ mn., at end-1960	935(b)	..	..	3,570	1,334	462	682	1,038	..	1,488	..	..	..
1954	..	..	..	+ 54	+ 23	+ 9	+ 5	..	..	..	..	1.794	0.953
1955	..	..	..	+ 6	+ 8	0	- 4	+ 20	..	- 104	..	3.753	1.753
1956	..	..	..	- 13	+ 12	- 1	- 12	+ 2	..	- 15	..	4.945	2.658
1957	..	..	..	0	0	- 2	0	+ 35	- 37	+ 17	- 24	4.814	3.267
1958	161	134	+ 27	+ 73	+ 28	+ 7	+ 17	- 58	+ 66	+ 9	+ 26	4.563	1.839
1959	231	158	+ 73	+ 195	+ 45	+ 41	+ 49	+ 7	+ 29	- 112	+ 36	3.375	3.405
1960	206	184	+ 22	+ 142	+ 65	+ 16	+ 25	- 51	+ 40	- 125	+ 162	4.887	2.928
1960 I	240	180	+ 60	+ 242	+ 78	+ 54	+ 57	- 281	+ 18	- 236	- 38	4.397	3.943
II	230	183	+ 47	+ 213	+ 80	+ 35	+ 43	+ 10	+ 18	- 150	+ 167	4.706	3.092
III	182	186	- 4	+ 59	+ 26	- 2	+ 11	+ 46	+ 45	- 84	+ 327	5.566	2.390
IV	171	188	- 17	+ 55	+ 74	- 22	- 9	+ 23	+ 79	- 28	+ 190	4.851	2.361
1961 I	201	202	- 1	+ 147	+ 112	+ 7	+ 9	- 229	- 291	- 96	- 34	4.348	2.377
II	..	..	..	+ 169	+ 61	+ 35	+ 14	+ 178	..	- 103(c)	..	..	2.316
January	173	194	- 21	..	..	..	..	+ 101	..	..	..	4.250	2.302
February	196	214	- 18	..	..	..	..	- 214	..	..	..	4.317	2.408
March	233	197	+ 36	..	..	..	..	- 117	..	..	..	4.478	2.420
April	219	204	+ 15	..	..	..	..	+ 354	..	..	..	4.455	2.327
May	246	216	+ 30	..	..	..	..	..	..	..	..	4.386	2.288
June	..	..	..	..	..	..	..	+ 180(c)	..	..	..	..	2.332

(a) Change in period. (b) All H.P. credits outstanding. (c) Excluding Northern Irish banks.



Table 16. Balance of payments : United Kingdom and sterling area

£ million

	U.K. current transactions				U.K. long-term capital		Balancing item	U.K. short-term capital, etc.					Sterling-area balances with non-sterling world		
	Imports	Exports	Invisibles	Balance	Inter-Government etc.	Other		Overseas sterling holdings		Reserves (a)	Other short-term capital	U.K. current balance	Overseas sterling area		
								Countries					Non-territorial	Current balance	Net capital receipts
								Sterling area	Other						
1952	2,959	2,831	+355	+227	—	—180	+48	—103	—255	+1	+175	+87	—121	—75	+27
1953	2,896	2,677	+398	+179	—31	—210	+45	+233	+41	—56	—240	+39	+27	+146	+11
1954	3,020	2,825	+399	+204	—20	—220	+19	+107	+103	—35	—87	—71	—56	+22	+11
1955	3,432	3,076	+264	—92	—53	—130	+119	—58	—69	—7	+229	+61	—287	+7	+11
1956	3,466	3,402	+256	+192	—51	—190	+112	—34	—120	+200(b)	—42(b)	—67	—154	+59	+11
1957	3,570	3,543	+256	+229	+67 (c)	—250	+161	—122	—27	—24	—13(c)	—21	—131	—184	+11
1958	3,330	3,392	+229	+291	—49	—130	+99	—89	+169	—22	—284	+15	—177	—313	+36
1959	3,578	3,509	+120	+51	—353 (e)	—142	+64	+185	—31	+82(d) (e)	+119(d) (e)	+25	—215	+61	+22
1960	4,077	3,711	+22	—344	—100	—101	+377	—224	+604	—156	—177	+121	—644	—399	+36
1959 I	850	841	+24	+15	—19	—30	+91	+55	—71	—85(d)	—25(d)	+69	—26	+16	+11
1959 II	880	885	+67	+72	—178(e)	—42	—25	+75	—33	+171(e)	—12(e)	—28			
1959 III	878	832	+52	+6	—21	—51	+44	+28	+36	—4	—40	+2			
1959 IV	970	951	—23	—42	—135(f)	—19	—46	+27	+37	—	+196(f)	—18			
1960 I	1,012	966	+9	—37	—17	—22	+101	—34	+19	—17	—16	+23	—216	—86	+10
1960 II	1,021	941	+38	—42	—21	—51	+40	+4	+118	—27	—40	+19			
1960 III	997	858	—9	—148	—15	—31	+124	—97	+226	—57	—77	+75			
1960 IV	1,047	946	—16	—117	—47	+3	+112	—97	+241	—55	—44	+4			
1961 I	1,045	987	+2	—56	—23	+58	+50	—37	—131	+4	+75	+60	+89		
1961 II	1,010	985									+89				

(a) A plus sign denotes a fall in the reserves and a minus sign a rise.

(b) UK acquired U.S. dollars to the value of £201 million from the International Monetary Fund (I.M.F.) in exchange for sterling.

(c) UK borrowed £89 million from Export/Import Bank.

(d) UK repurchased from I.M.F. with U.S. dollars, sterling to the value of £71 million.

(e) UK paid to I.M.F. a subscription of £232 million (£174 million in sterling and £58 million in gold).

(f) UK repaid £89 million to Export/Import Bank.

Table 17. U.K. imports and exports and changes in imported stocks

Quarterly average

	Imports				Exports (exc. re-exports)				Adjusted balance of visible trade (a) (b)	Terms of trade import/export	Stock changes of mainly imported commodities				
	Value c.i.f.		Volume		Value f.o.b.		Volume				Total	Total	Food and tobacco	Industrial materials	Fuels
	As recorded	Adjusted (a)	As recorded	Adjusted (a)	As recorded	Adjusted (a)	As recorded	Adjusted (a)							
	£mn.	1954 = 100	£mn.	1954 = 100	£mn.	1954 = 100	£mn.	1954 = 100			Current prices	1954 prices, £mn. c.i.f.			
1950	645	645	89	89	538	538	101	100	- 87	100	-30.3	-33.4	-14.1	-20.1	+ 0.1
1951	970	970	100	100	642	642	100	98	-297	113	+32.0	+19.7	+10.4	+ 2.0	+ 7.5
1952	864	864	92	92	642	642	94	92	-187	106	+20.8	+20.5	+ 2.1	+13.4	+ 5.5
1953	830	830	99	99	639	639	96	94	-165	100	+22.0	+16.9	+ 9.6	+ 3.8	+ 3.5
1954	838	838	100	100	662	672	100	100	-142	100	- 5.0	- 5.0	- 2.1	- 5.7	+ 2.2
1955	965	965	112	112	719	709	107	104	-227	101	+ 2.0	+ 2.0	- 4.5	+ 1.8	+ 4.0
1956	965	974	111	112	786	781	113	111	-157	99	-13.3	-12.1	- 0.6	-10.9	- 0.1
1957	1,011	1,003	115	114	824	822	116	114	-149	96	+25.2	+21.9	+ 5.9	+ 8.0	+ 8.9
1958	937	936	114	114	794	794	111	110	-108	90	- 1.3	- 1.0	- 0.3	- 1.5	+ 0.1
1959	996	997	122	123	833	833	116	114	-131	90	+ 2.9	+ 4.0	- 2.5	- 2.7	+ 9.4
1960	1,140	1,140	137	138	889	893	122	121	-212	88	+25.9	+26.8	+ 5.5	+15.9	+ 5.5
1959 I	941	965	117	120	792	783	111	108	-152	90	- 7.2	+ 2.5	+13.6	-10.6	- 0.1
1959 II	983	960	123	120	845	829	118	114	- 96	89					
1959 III	984	996	119	121	790	837	111	116	-130	90					
1959 IV	1,082	1,074	130	130	903	881	125	120	-159	91					
1960 I	1,125	1,107	136	134	925	915	127	124	-162	90	+ 1.8	- 2.6	+10.0	-10.9	- 1.1
1960 II	1,141	1,125	140	137	904	885	124	120	-207	88					
1960 III	1,119	1,155	135	138	818	870	113	119	-246	88					
1960 IV	1,173	1,170	..	140	909	901	125	122	-234	88					
1961 I	1,157	1,155	..	143	938	911	128	123	-208	87	+37.0		+ 9.1	+15.2	+12.2
1961 II	1,121	1,086	..	134	934	919	124	124	-127	88					
January	1,213	1,194	..	148	990	910	..	123	-249	88					
February	1,059	1,149	..	142	891	922	..	125	-195	87					
March	1,197	1,125	..	139	930	902	..	121	-186	87					
April	1,066	1,077	..	133	956	919	..	124	-123	88					
May	1,184	1,083	..	134	897	846(c)	..	114(c)	-198(c)	88					
June	1,113	1,098	..	136	949	993(c)	..	133(c)	- 60(c)	88					

(a) Adjusted for dock strikes and other statistical disturbances as well as for seasonal movements and for the different number of working days.

(b) Exports and re-exports less imports.

(c) Exports not adjusted for dock strike.

Exports exclu

Table 18. Volume of U.K. imports, by commodity

Index numbers, 1954 = 100, seasonally adjusted

	Food and beverages	Tobacco	Basic materials					Fuels		Semi-manufactures and manufactures mainly for industrial use				Finished manufactures	
			Total	Textile materials	Wood	Pulp	Ores and scrap	Total	Petroleum and products	Total	Iron and steel (a)	Non-ferrous metals (a)	Textile manufactures	Total	Machinery
Value 1960 £mn	1,441	104	1,063	267	187	122	167	483	482	906	101	279	136	542	255
1950	92	97	97	110	77	72	88	65	68	86	139	78	121	74	80
1951	101	113	102	96	120	87	82	86	88	111	150	91	152	76	86
1952	91	71	90	88	83	73	90	83	87	97	352	103	71	107	142
1953	102	104	101	110	101	82	95	90	94	86	198	85	65	115	118
1954	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
1955	107	111	106	98	114	118	112	121	107	126	363	109	107	122	124
1956	109	102	102	100	92	113	114	115	112	121	379	101	120	136	137
1957	114	103	106	101	101	112	126	114	115	122	215	110	129	152	145
1958	120	101	94	89	89	111	94	124	129	119	139	114	124	166	153
1959	119	97	100	103	98	120	91	143	151	135	136	121	149	201	178
1960	121	118	109	92	119	146	134	157	165	172	311	149	196	287	218
1959 I	124	73	97	98	97	119	83	137	147	121	96	115	130	171	166
1959 II	114	120	97	103	100	111	73	147	153	128	149	121	135	195	182
1959 III	115	87	100	105	97	118	98	141	152	135	134	121	157	213	180
1959 IV	119	104	109	107	100	133	110	147	153	152	163	128	177	227	185
1960 I	118	124	108	95	109	144	126	158	159	163	227	146	181	275	206
1960 II	120	110	106	92	123	147	130	150	158	175	370	154	195	317	223
1960 III	120	108	112	95	118	144	144	151	160	179	400	153	201	279	220
1960 IV	124	126	111	86	121	150	133	168	174	173	247	143	208	277	224
1961 I	122	114	114	96	131	160	135	180	185	180	208	147	215	295	256

For explanations and definitions see page 66.

Unadjusted.

Table 19. Volume of U.K. exports, by commodity and area

Index numbers, 1954 = 100, seasonally adjusted

	By commodity											By area			
	Food, bever- ages, tobacco	Basic mater- ials, fuels	Manufactures									Overseas sterling area	North America	Western Europe	Other countries
			Total	Metals and engineering					Textiles	Chem- icals	Other manu- goods (a)				
				Total	Metals	Metal goods (a)	Machin- ery	Trans- port equip- ment							
Value 1960 £mn	197	258	3,001	2,044	314	207	946	578	261	317	379	1,428	543	1,030	554
1950	93	78	106	102	106	101	99	105	125	79	121	93	104	93	124
1951	95	61	105	100	80	103	104	101	126	92	118	101	99	89	108
1952	91	77	96	98	84	97	106	93	94	77	100	91	95	88	108
1953	94	93	96	97	94	105	100	92	103	79	97	93	111	95	97
1954	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
1955	106	100	109	110	113	114	110	106	96	117	112	106	113	106	110
1956	115	103	115	118	126	110	117	121	92	126	113	104	136	114	126
1957	124	96	118	121	139	105	120	123	92	137	113	105	143	114	139
1958	121	98	113	118	135	90	114	127	79	135	112	101	152	106	128
1959	121	106	117	121	148	89	118	128	79	155	115	96	187	116	132
1960	125	109	125	127	147	98	128	128	80	181	120	101	176	129	145
1959 I	102	106	110	114	135	82	110	124	74	142	110	90	168	108	136
1959 II	119	107	118	121	130	92	118	135	81	156	115	96	192	113	128
1959 III	130	101	118	122	162	86	119	124	79	164	110	96	196	119	130
1959 IV	131	110	123	127	164	96	123	128	82	160	126	101	192	123	136
1960 I	126	117	127	132	160	95	128	142	85	168	117	100	207	128	152
1960 II	122	107	125	128	146	101	126	135	80	181	119	102	176	127	143
1960 III	125	101	121	123	141	92	128	122	78	188	117	104	155	127	143
1960 IV	129	111	123	124	141	104	131	114	76	189	126	100	165	133	142
1961 I	125	110	129	132	151	100	147	115	78	203	122	106	153	138	155
March												100	142	138	155
April												101	174	132	152
May												89	145	137	130

Unadjusted.



Table 20. World industrial production

Index numbers, 1953 = 100, seasonally adjusted

	World (a) (b)	USA	Canada	EEC	West Ger- many	France	Italy	Belgium	Nether- lands	EFTA (c)	UK	Sweden	Latin America (a)	Japan (a)	USSR
Weight(d)	1,000	516	34	167	68	45	27	14	11	123	92	13	40	21	
1950	84	84	83	81	72	89	78	93	88	94	94	95	90	55	64
1951	91	90	90	92	85	99	89	106	91	98	98	100	97	77	80
1952	93	93	94	94	91	98	91	101	91	95	94	98	98	83	90
1953	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
1954	101	93	100	110	112	109	109	106	110	108	108	104	107	108	114
1955	112	104	110	122	129	117	119	116	118	115	114	111	117	116	123
1956	117	109	120	132	139	128	128	123	124	116	114	115	127	144	144
1957	121	110	120	140	147	139	138	123	127	119	116	119	137	167	155
1958	118	102	119	144	152	145	143	115	127	118	114	122	145	168	172
1959	130	116	128	153	162	152	158	119	139	126	122	127	147	208	193
1960	137	119	130	171	180		182	126	157	134	130	135		261	212
1959 I	125	112	125	149	156	151	152	114*	133	119	116	125	142	188	
II	132	120	129	153	159	157	153	118	138	122	119	125	151	201	
III	127	115*	128	156	163	160	157	120	140	126	122	127	147	212	
IV	136	115	131	165	171	169	170	126	144	131	127	132	149	228	
1960 I	136	121	133	168	176	168	177	125	153	133	129	133	150	247	
II	139	120	129	171	179	171	181	127	160	134	131	133	157	254	
III	133	119	128	173	179	177	185	127	155	135	131	137	159	262	
IV	139	115	129	177	184	181	186	124*	160	135	130	139		280	
1961 I		112	128	181	193	179	193	121	163	136	130	142		297	
January		112	128	178	193	179	190	97	162	135	129	142		271	
February		112	129	182	192	179	196	133	162	136	130	142		294	
March		112	128	183	193	180	192	134	164	136	130	142		325	
April		116	132	181	189	180			165	137	132	139		298	
May		119			189										
June		121													

(a) Not seasonally adjusted. (b) Excludes the Sino-Soviet Bloc (see page 66) (c) Excludes Switzerland. (d) In world total.  
 \*Denotes period affected by major strike.

Table 21. The United States<sup>(a)</sup>

Quarterly averages, seasonally adjusted

	Gross national product	Consumers' expenditure		Public spending on goods and services		Gross private fixed investment		Value of physical changes in stocks	Net foreign investment	Durable goods		Building and contracting orders	Unemployment (c)	Employment (b)	Consumer prices (b)
		Durable goods	Other goods and services	Federal	Other	Dwellings	Other			Manufacturers' sales	Manufacturers' new orders				
\$ billion, at constant 1954 prices										\$ billion at current prices		per cent	millions	1954 = 100	
1950	79.5	8.25	46.2	5.4	5.88	3.88	8.30	1.80	0.05	26.41	30.95	4.6	5.0	59.96	89.5
1951	85.5	7.30	47.4	9.8	6.03	3.23	8.80	2.43	0.55	31.13	38.03	5.0	3.0	61.01	96.7
1952	88.4	7.13	49.0	13.3	6.13	3.20	8.75	0.65	0.05	32.81	35.06	5.3	2.7	61.04	98.9
1953	92.3	8.28	50.5	14.7	6.38	3.40	9.13	0.13	-0.23	37.13	33.10	5.6	2.5	61.95	99.7
1954	90.8	8.10	51.4	11.9	6.93	3.85	8.78	-0.40	0.25	33.71	30.47	6.3	5.0	60.89	100.0
1955	98.2	9.90	54.1	10.9	7.43	4.55	9.55	1.53	0.23	39.24	41.56	7.6	4.0	62.94	99.7
1956	100.2	9.50	56.6	10.4	7.65	4.05	10.28	1.13	0.63	41.42	43.33	7.9	3.8	64.71	101.2
1957	102.2	9.63	58.2	10.8	8.05	3.83	10.28	0.40	0.95	42.48	39.26	8.0	4.3	65.01	104.7
1958	100.3	8.90	59.5	11.1	8.70	4.05	8.58	-0.55	0.05	37.21	36.43	8.8	6.8	63.97	107.6
1959	107.0	10.20	62.2	10.9	9.15	4.85	9.08	1.30	-0.60	43.57	44.81	9.1	5.5	65.58	108.6
1960	109.8	10.32	63.9	10.4	9.70	4.51	9.86	0.80	0.39	44.08	42.62	9.1	5.6	66.68	110.2
1959 I	105.7	9.83	61.2	11.1	9.20	4.83	8.65	1.70	-0.68	41.81	44.14	9.1	6.0	63.09	107.8
II	108.6	10.40	62.1	11.1	9.20	5.10	9.08	2.53	-0.95	46.45	47.17	9.7	5.1	66.12	108.4
III	106.6	10.30	62.4	10.9	9.25	4.90	9.28	—	-0.43	43.51	44.21	9.1	5.4	67.06	108.9
IV	107.3	10.28	62.9	10.6	9.05	4.58	9.30	0.95	-0.38	42.54	43.59	8.8	5.8	66.06	109.3
1960 I	110.1	10.45	63.3	10.5	9.45	4.58	9.53	2.45	-0.03	46.29	43.63	8.4	5.1	64.27	109.4
II	110.6	10.48	64.1	10.5	9.65	4.55	9.95	1.20	0.18	44.94	43.49	8.8	5.1	67.32	109.9
III	109.5	10.05	64.2	10.3	9.80	4.50	10.00	0.15	0.55	43.73	42.87	9.3	5.7	68.24	110.2
IV	109.3	10.30	64.1	10.4	9.90	4.40	9.95	-0.60	0.85	41.38	40.48	10.1	6.5	66.90	110.9
1961 I	108.1	9.38	64.3	10.7	10.18	4.12	9.46	-0.95	+0.95	39.85	40.06	9.0	6.8	64.90	111.1
II	111.4														
March										41.07	41.46	9.1	6.9	65.50	111.1
April										42.45	43.74	9.1	6.8	65.70	111.1
May										43.80	44.70	9.1	6.9	66.80	111.1

(a) The U.S. index of industrial production is shown in table 20. (b) Employment and consumer prices are not seasonally adjusted. (c) Per cent of civilian labour force.

Table 22. Industrial countries : imports by volume and import and export prices

Index numbers, 1953 = 100

	Volume of imports						Import prices				Export prices				
	U.S.A.	U.K.	OEEC. incl. U.K.		West Germany	France	U.S.A.	U.K.	West Germany	France	U.S.A.	U.K.	West Germany	France	Japan
			From outside	Intra-trade											
1950	92	90	92	85	72	90	88	84	98	87	88	84	78	82	82
1951	91	101	100	92	75	101	111	112	123	114	101	99	98	96	122
1952	96	93	96	90	90	100	105	110	113	111	100	104	103	103	108
1953	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
1954	93	101	107	113	123	109	103	99	98	99	99	99	98	94	97
1955	103	113	121	129	152	123	102	102	100	98	100	101	98	95	93
1956	112	112	130	137	171	143	104	104	102	99	103	105	101	100	96
1957	115	116	138	146	192	151	105	106	103	104	107	110	103	102	97
1958	119	116	139	146	205	150	100	98	95	95	106	109	103	98	91
1959	142	124	147	168	247	147	99	97	91	88	107	108	100	90	91
1960	137	140	164	198	294	176	100	98	91	91	108	110	101	94	94
1958 I	115	114	138	141	197	160	102	98	98	96	107	109	104	98	93
1958 II	115	112	137	143	190	163	101	98	96	95	106	109	103	99	91
1958 III	115	115	136	143	208	134	100	97	93	96	105	109	102	98	90
1958 IV	130	122	146	156	227	143	99	98	93	94	106	108	101	96	89
1959 I	134	118	138	148	209	140	98	97	92	87	107	108	101	87	89
1959 II	144	125	147	163	243	151	98	96	90	88	107	108	101	90	90
1959 III	143	121	142	164	252	132	98	97	90	88	107	107	100	90	91
1959 IV	146	132	159	193	284	166	99	99	90	89	107	109	100	92	93
1960 I	142	138	173	190	277	184	100	99	91	90	108	110	100	95	94
1960 II	141	142	171	194	290	179	100	98	92	90	107	110	101	95	94
1960 III	132	136	168	190	285	159	100	97	91	94	108	110	101	94	94
1960 IV	131	142	180	218	324	180	99	98	90	90	108	110	102	93	95
1961 I		145			289	191		96	90			111	104		94

Table 23. Industrial countries' exports of manufactures

	Volume							Value, total	Shares					
	Total	U.S.A. (a)	U.K.	West Germany	France	Japan	Others (b)		U.S.A. (a)	U.K.	West Germany	France	Japan	Others (b)
Index numbers, 1953 = 100								\$ bn., quarterly averages	Per cent of total value					
1950	86	86	110	42	98	81	84	5.0	27.3	25.5	7.3	9.9	3.4	26.6
1951	100	103	109	72	118	89	100	7.0	26.6	21.9	10.0	10.0	4.3	27.2
1952	98	102	100	89	95	94	98	6.9	26.2	21.5	12.0	9.2	3.8	27.3
1953	100	100	100	100	100	100	100	6.9	25.9	21.2	13.3	9.0	3.8	26.8
1954	111	106	104	124	110	140	108	7.4	25.2	20.3	14.8	9.0	4.7	26.0
1955	125	115	113	149	123	186	122	8.5	24.5	19.6	15.4	9.3	5.1	26.1
1956	136	128	120	174	114	222	133	9.6	25.3	19.0	16.4	7.8	5.7	25.8
1957	146	135	123	202	128	250	140	10.7	25.4	18.0	17.5	8.0	6.0	25.1
1958	145	122	118	213	139	255	143	10.5	23.3	17.8	18.6	8.6	6.0	25.7
1959	157	118	122	234	170	303	160	11.3	21.2	17.3	19.1	9.2	6.7	26.5
1960	178	135	129	267	195	345	184	13.1	21.6	16.1	19.4	9.7	6.9	26.4
1958 I	141	123	121	195	134	255	135	10.3	24.2	18.6	17.4	8.5	6.1	25.2
II	144	127	115	210	130	246	142	10.4	24.4	17.5	18.1	8.3	5.8	25.9
III	141	113	116	214	125	239	141	10.1	22.3	18.1	19.6	8.1	5.9	26.0
IV	154	123	120	230	165	279	153	11.1	22.5	17.0	19.1	9.5	6.1	25.8
1959 I	143	115	116	205	149	263	139	10.2	23.1	18.4	18.3	8.7	6.2	25.3
II	158	123	125	230	174	290	157	11.4	21.9	17.8	18.6	9.5	6.4	25.8
III	155	115	117	232	159	305	161	11.1	21.1	16.9	19.5	8.8	6.9	26.8
IV	174	117	130	269	198	352	182	12.7	19.3	16.6	19.9	9.8	7.1	27.4
1960 I	173	127	134	254	209	294	179	12.8	20.8	17.1	18.9	10.6	6.1	26.5
II	178	145	133	257	193	328	181	13.2	22.9	16.5	18.5	9.6	6.5	26.0
III	173	133	120	260	174	354	182	12.5	22.2	15.5	19.4	8.9	7.5	26.5
IV	189	136	129	297	203	404	196	13.9	20.6	15.2	20.6	9.6	7.5	26.5
1961 I			137	268	200			13.3	21.4	16.8	19.7	9.8	6.3	26.0

(a) Excluding special category.

(b) Belgium-Luxembourg, Canada, Italy, Netherlands, Sweden and Switzerland.



Table 24. Merchandise trade of primary producing countries

\$ billion, quarterly averages, seasonally adjusted

	Total			Overseas sterling area (excluding oil producers)			Latin America excluding Venezuela			Oil producing countries					
										Sterling			Non-Sterling		
	Exports	Imports	Balance	Exports	Imports (a)	Balance	Exports (a)	Imports	Balance	Exports	Imports (a)	Balance	Exports (a)	Imports	Balance
1948	4.99	5.65	-0.66	2.05	2.43	-0.38	1.36	1.35	—	0.12	0.12	—	0.58	0.47	+0.11
1949	4.86	5.68	-0.82	2.04	2.55	-0.51	1.15	1.15	—	0.14	0.13	+0.02	0.65	0.48	+0.17
1950	5.57	5.30	+0.27	2.24	2.23	+0.01	1.41	1.24	+0.17	0.19	0.14	+0.05	0.72	0.46	+0.26
1951	7.06	7.36	-0.30	2.99	3.20	-0.21	1.61	1.77	-0.16	0.26	0.16	+0.10	0.83	0.55	+0.28
1952	6.18	7.28	-1.10	2.51	2.97	-0.46	1.40	1.71	-0.31	0.29	0.17	+0.12	0.77	0.59	+0.18
1953	6.30	6.42	-0.12	2.41	2.51	-0.10	1.54	1.41	+0.14	0.31	0.19	+0.12	0.81	0.59	+0.22
1954	6.50	6.81	-0.31	2.41	2.67	-0.26	1.55	1.60	-0.05	0.34	0.21	+0.13	0.94	0.65	+0.29
1955	6.94	7.39	-0.45	2.61	3.01	-0.40	1.53	1.62	-0.09	0.39	0.22	+0.16	1.07	0.72	+0.35
1956	7.32	7.83	-0.51	2.73	3.18	-0.45	1.63	1.67	-0.04	0.40	0.22	+0.18	1.16	0.81	+0.35
1957	7.60	8.78	-1.18	2.85	3.51	-0.65	1.57	1.87	-0.30	0.44	0.24	+0.20	1.25	1.02	+0.23
1958	7.21	8.28	-1.08	2.54	3.31	-0.77	1.47	1.73	-0.26	0.50	0.25	+0.24	1.31	0.96	+0.35
1959	7.59	8.09	-0.50	2.88	3.39	-0.52	1.49	1.59	-0.10	0.49	0.26	+0.23	1.30	0.93	+0.37
1960	7.92	8.92	-1.00	3.03	3.93	-0.90	1.54	1.77	-0.23	0.52	0.27	+0.25	1.36	0.83	+0.53
1958 I	7.30	8.55	-1.25	2.61	3.43	-0.82	1.46	1.81	-0.35	0.49	0.25	+0.24	1.29	0.97	+0.32
1958 II	6.99	8.27	-1.28	2.44	3.29	-0.85	1.46	1.76	-0.29	0.50	0.25	+0.24	1.24	0.96	+0.27
1958 III	7.14	8.03	-0.89	2.57	3.16	-0.60	1.42	1.71	-0.29	0.48	0.25	+0.23	1.31	0.95	+0.37
1958 IV	7.40	8.29	-0.89	2.56	3.37	-0.81	1.53	1.66	-0.13	0.52	0.26	+0.27	1.39	0.95	+0.44
1959 I	7.26	7.65	-0.39	2.58	3.16	-0.59	1.46	1.47	-0.01	0.49	0.26	+0.23	1.39	0.94	+0.45
1959 II	7.55	8.11	-0.55	2.83	3.40	-0.57	1.53	1.59	-0.06	0.48	0.26	+0.22	1.22	0.93	+0.29
1959 III	7.71	8.16	-0.45	2.98	3.36	-0.38	1.57	1.68	-0.11	0.47	0.26	+0.21	1.25	0.92	+0.33
1959 IV	7.85	8.46	-0.61	3.12	3.66	-0.54	1.39	1.61	-0.22	0.51	0.27	+0.24	1.36	0.93	+0.43
1960 I	8.01	8.73	-0.73	3.09	3.75	-0.65	1.52	1.73	-0.22	0.50	0.25	+0.24	1.36	0.87	+0.49
1960 II	8.20	9.05	-0.86	3.09	3.95	-0.86	1.63	1.81	-0.17	0.52	0.27	+0.25	1.36	0.87	+0.50
1960 III	7.79	8.94	-1.15	3.05	3.98	-0.93	1.53	1.77	-0.24	0.50	0.26	+0.24	1.34	0.83	+0.51
1960 IV	7.67	8.96	-1.28	2.86	4.02	-1.16	1.48	1.78	-0.30	0.55	0.28	+0.27	1.37	0.75	+0.62
1961 I				2.95	3.99	-1.03	1.48	1.86	-0.38						

(a) Unadjusted; no seasonal pattern.

Table 25. The sterling area countries: Australia and New Zealand

	Australia								New Zealand						
	Factory production(a)	Civil employ- ment	Bank advances (b) (c)	Personal con- sump- tion (a) (d)	Private fixed invest- ment (a) (d)	Merchandise trade, \$ mn. (b) (d)			Reserves (e)	Bank advances (b) (f)	Retail sales (b) (d)	Merchandise trade, \$ mn. (b) (d)			Reserve (e)
						Exports	Imports	Balance				Exports	Imports	Balance	
1953/4 = 100	'000	£A mn.	£A mn.	£A mn.				\$ mn.	£NZ mn.	£NZ mn. at 1957/8 prices				\$ mn.	
1954	100	2,712	719	702	185	414	467	- 53	1,133	157	110	171	172	- 1	238
1955	109	2,801	807	777	217	437	540	-103	835	183	114	181	200	-19	178
1956	116	2,852	783	828	234	472	491	- 19	953	171	115	194	188	+ 6	200
1957	121	2,868	755	874	237	551	486	+ 65	1,321	165	121	193	208	-15	152
1958	128	2,896	806	933	259	415	510	- 95	1,120	175	122	150	199	-49	187
1959	136	2,948	795	981	270	500	531	- 31	1,226	170	120	205	162	+43	217
1960	148	3,044	879	1,074	312	491	679	-188	843	178	133	211	196	+15	177
1959 I	..	2,926	803	947	259	463	486	- 23	1,128	166	114	192	148	+44	217
1959 II	..	2,941	785	998	284	487	517	- 30	1,157	166	120	193	160	+33	249
1959 III	..	2,948	791	1,020	289	532	522	+ 10	1,152	169	121	203	157	+46	271
1959 IV	..	2,977	803	1,126	313	520	599	- 79	1,226	162	124	233	182	+51	217
1960 I	138	3,018	824	1,044	301	536	614	- 78	1,226	171	132	244	185	+59	235
1960 II		3,033	856	1,104	345	485	639	-154	1,147	174	131	198	190	+ 8	298
1960 III		3,050	907	1,113	352	510	708	-198	950	182	135	223	200	+23	277
1960 IV		3,076	927	1,204	357	432	755	-323	843	187	135	181	211	-30	177
1961 I		3,079	912	1,099	294	545	718	-173	869	207		188			161
1961 II						605	605		1,221						
January	142	3,083	925						839	194					151
February	147	3,084	912						837	207					143
March		3,070	901						869	219					161
April		3,054							933	218					149
May									1,200						150
June									1,221						

For footnotes see page 63.

Table 25 (contd.). The sterling area countries : India, Pakistan, Burma, Ceylon, Malaya and Ghana

	India						Pakistan		Burma	Ceylon		Malaya		Ghana	
	Industrial production (b)	Bank advances (b) (e)	Merchandise trade, \$mn. (d)			Reserves (e)	Exports (b) (d)	Reserves (e)	Reserves (e)	Exports (b) (d)	Reserves (e)	Exports (b) (d)	Reserves (e)	Exports (b) (d)	Reserves (e)
			Exports (b)	Imports	Balance	\$mn.	\$mn.	\$mn.	\$mn.	\$mn.	\$mn.	\$mn.	\$mn.	\$mn.	\$mn.
	1951 = 100	bn. rupees													
54	113	4.90	295	324	- 29	1,782	90	257	124	95	168	133	428	73	515
55	122	5.43	319	353	- 34	1,791	100	294	92	102	205	194	472	61	532
56	133	6.54	325	431	-106	1,360	85	313	121	91	221	185	513	56	484
57	137	7.48	345	561	-216	872	90	257	93	88	183	178	494	57	434
58	140	7.79	305	461	-156	644	76	210	119	90	172	154	501	66	441
59	152	8.53	326	494	-168	695	80	298	141	92	132	202	649	72	423
60	171	10.56	333	531	-198	566	98	313	125	96	89	239	776	73	
59 I	147	8.07	282	506	-224	695	56	235	122	82	172	172	532	57	431
II	145	8.25	318	560	-242	652	78	266	142	99	161	191	564	67	449
III	154	8.29	337	446	-109	627	91	281	147	89	149	218	602	99	445
IV	160	8.53	367	462	- 95	695	96	298	141	98	132	227	649	63	423
60 I	167	8.86	318	491	-173	661	76	318	131	103	131	241	690	62	408
II	166	9.36	350	580	-230	578	124	299	160	102	117	252	742	80	411
III	168	10.34	312	542	-230	540	98	288	143	91	97	247	765	93	400
IV	181	10.56	354	512	-158	566	95	313	125	89	89	215	776	57	
61 I			347	503	-156	533	88	336	101	91	91		796	53	
II						486									
January		10.38				557		326	117		86		781		
February		10.29				582		340	108		86		795		
March						533		336	101		91		796		
April						506		329	93				805		
May						533		321							
June						486									

Table 25 (contd.). The sterling area countries : Irish Republic, Nigeria, Rhodesia and South Africa

	Irish Republic					Nigeria	Federation of Rhodesia and Nyasaland			Union of South Africa					
	Industrial production (b)	Unemployment (b)	Bank advances (e)	Exports (b) (d)	Reserves (e)	Exports (b) (d)	Industrial production	Exports (b) (d)	Reserves (e)	Employment (b)	Bank advances (e)	Merchandise trade, \$mn. (b) (d)			Reserves (e)
												Exports	Imports	Balance	
	1953 = 100	'000	£mn.	\$mn.	\$mn.	\$mn.	1959 = 100	\$mn.	\$mn.	'000	mn. Rands				\$mn.
54	103	62	167	81	364	105	..	102	150	..	480	256	359	-103	416
55	108	56	192	78	331	93	..	121	178	..	548	265	370	-105	366
56	105	62	190	76	282	94	..	127	181	..	559	296	381	- 85	372
57	104	70	195	92	296	89	..	109	213	1,639	649	324	423	- 99	288
58	106	65	203	92	300	95	..	95	207	1,646	614	281	428	-147	317
59	114	60	233	92	317	114	100	131	221	1,656	632	308	376	- 68	431
60	122	52	256	107	316	115	108	144	195	1,664	755	314	428	-114	244
59 I	108	62	214	88	316	118	96	114	209	1,654	622	282	353	- 71	330
II	115	60	222	89	288	116	103	133	221	1,653	634	316	374	- 58	338
III	118	61	231	91	299	118	101	132	207	1,655	602	320	371	- 51	382
IV	117	58	233	98	317	106	100	144	221	1,662	632	313	407	- 94	431
60 I	120	56	240	105	323	106	107	154	216	1,661	681	325	405	- 80	411
II	122	52	247	97	285	134	109	141	203	1,661	717	335	433	- 98	311
III	123	52	252	111	301	118	109	142	200	1,669	741	321	449	-128	273
IV	123	50	256	114	316	104	106	140	195	1,666	755	276	424	-148	244
61 I				124	338		112		206			339	423	- 84	260
II															216
January		48			316		105			1,687	742				250
February		47			332		117				747				261
March					338		115								260
April					313										230
May					314										216
June															216

For explanations and definitions see page 66.

a) Annual figures are for 12 months ending in June of specified years.

b) Seasonally adjusted.

c) Average in period.

d) Quarterly rates.

e) At end of period.

f) The annual figures are the averages of 52 weeks, whereas the quarterly and monthly figures represent the bank advances at the last Wednesday of the period.



Table 26. Merchandise trade of industrial countries

\$ billion, quarterly averages, seasonally adjusted

	Total			USA			Canada			EFTA			UK		
	Exports	Imports	Balance	Exports	Imports	Balance	Exports	Imports	Balance	Exports	Imports	Balance	Exports	Imports	Balance
1948	8.02	8.61	-0.59	3.13	1.77	+1.36	0.76	0.66	+0.11	2.47	3.25	-0.78	1.66	2.09	-0.43
1949	8.34	8.56	-0.22	2.98	1.65	+1.33	0.68	0.62	+0.05	2.55	3.23	-0.68	1.71	2.11	-0.40
1950	8.27	9.14	-0.87	2.53	2.19	+0.35	0.73	0.73	—	2.47	2.95	-0.48	1.58	1.82	-0.24
1951	11.63	12.52	-0.89	3.72	2.70	+1.02	0.94	0.97	-0.03	3.15	4.23	-1.08	1.90	2.73	-0.83
1952	11.80	12.22	-0.42	3.76	2.68	+1.07	1.11	1.03	+0.08	3.11	3.88	-0.76	1.91	2.44	-0.53
1953	11.95	12.20	-0.24	3.90	2.69	+1.21	1.06	1.11	-0.05	3.09	3.73	-0.64	1.88	2.34	-0.46
1954	12.38	12.59	-0.21	3.74	2.56	+1.18	1.01	1.05	-0.04	3.25	3.93	-0.68	1.94	2.36	-0.42
1955	13.57	14.25	-0.68	3.85	2.83	+1.01	1.10	1.19	-0.09	3.54	4.48	-0.93	2.12	2.72	-0.60
1956	15.54	16.03	-0.49	4.71	3.12	+1.58	1.24	1.45	-0.22	3.92	4.70	-0.77	2.32	2.72	-0.40
1957	16.94	17.34	-0.40	5.16	3.23	+1.93	1.29	1.47	-0.18	4.16	5.02	-0.86	2.42	2.85	-0.43
1958	16.16	16.07	+0.09	4.42	3.18	+1.24	1.27	1.34	-0.07	4.06	4.71	-0.65	2.35	2.65	-0.30
1959	17.14	17.57	-0.42	4.34	3.75	+0.60	1.36	1.47	-0.11	4.25	5.00	-0.75	2.42	2.79	-0.37
1960	19.55	19.77	-0.22	5.08	3.66	+1.41	1.39	1.42	-0.03	4.63	5.78	-1.15	2.57	3.19	-0.62
1958 I	16.22	16.13	+0.09	4.50	3.12	+1.38	1.24	1.33	-0.08	4.05	4.66	-0.61	2.35	2.59	-0.24
1958 II	15.75	15.75	—	4.34	3.15	+1.19	1.20	1.33	-0.13	3.90	4.51	-0.61	2.20	2.50	-0.30
1958 III	16.15	16.05	+0.10	4.39	3.18	+1.21	1.26	1.29	-0.04	4.09	4.79	-0.70	2.39	2.70	-0.31
1958 IV	16.57	16.53	+0.04	4.62	3.40	+1.21	1.30	1.42	-0.12	4.09	4.82	-0.74	2.33	2.72	-0.39
1959 I	16.07	16.52	-0.45	4.20	3.50	+0.70	1.23	1.42	-0.19	4.06	4.74	-0.68	2.28	2.70	-0.42
1959 II	16.75	17.30	-0.55	4.17	3.79	+0.38	1.37	1.49	-0.13	4.20	4.85	-0.65	2.42	2.70	-0.28
1959 III	17.37	17.77	-0.40	4.42	3.83	+0.59	1.36	1.48	-0.13	4.25	5.03	-0.78	2.43	2.80	-0.37
1959 IV	18.23	18.63	-0.40	4.53	3.83	+0.69	1.48	1.51	-0.02	4.49	5.40	-0.91	2.56	3.03	-0.47
1960 I	19.57	19.75	-0.18	4.98	3.82	+1.16	1.48	1.49	—	4.68	5.63	-0.95	2.65	3.13	-0.48
1960 II	19.26	19.56	-0.30	5.05	3.82	+1.23	1.30	1.41	-0.11	4.59	5.68	-1.09	2.57	3.17	-0.60
1960 III	19.43	19.82	-0.39	5.07	3.64	+1.42	1.41	1.34	+0.07	4.57	5.83	-1.25	2.53	3.25	-0.72
1960 IV	20.10	19.96	+0.15	5.15	3.38	+1.78	1.42	1.45	-0.03	4.71	6.03	-1.31	2.57	3.31	-0.74
1961 I	20.42	20.23	+0.19	5.29	3.36	+1.93	1.40	1.41	-0.01	4.87	5.98	-1.11	2.69	3.24	-0.55

	EEC			West Germany			France			Italy			Japan		
	Exports	Imports	Balance	Exports	Imports	Balance	Exports	Imports	Balance	Exports	Imports	Balance	Exports	Imports	Balance
1948	1.60	2.59	-0.99	0.16	0.39	-0.23	0.50	0.86	-0.36	0.27	0.38	-0.11	0.06	0.17	-0.11
1949	2.00	2.66	-0.66	0.28	0.56	-0.28	0.68	0.82	-0.14	0.28	0.37	-0.10	0.13	0.23	-0.10
1950	2.32	2.81	-0.48	0.49	0.67	-0.18	0.77	0.77	—	0.30	0.37	-0.07	0.20	0.24	-0.04
1951	3.48	3.83	-0.35	0.87	0.88	-0.01	1.06	1.15	-0.10	0.41	0.54	-0.13	0.34	0.51	-0.17
1952	3.50	3.84	-0.34	1.01	0.96	+0.05	1.01	1.14	-0.13	0.35	0.58	-0.23	0.32	0.52	-0.20
1953	3.58	3.78	-0.20	1.11	0.95	+0.16	1.00	1.04	-0.04	0.37	0.60	-0.23	0.32	0.60	-0.28
1954	3.97	4.18	-0.20	1.31	1.14	+0.17	1.08	1.09	-0.01	0.41	0.60	-0.19	0.41	0.60	-0.19
1955	4.57	4.82	-0.25	1.54	1.46	+0.08	1.21	1.18	+0.03	0.46	0.68	-0.21	0.50	0.62	-0.11
1956	5.05	5.62	-0.57	1.84	1.67	+0.17	1.16	1.41	-0.26	0.54	0.79	-0.25	0.62	0.81	-0.18
1957	5.62	6.21	-0.59	2.14	1.88	+0.26	1.27	1.54	-0.27	0.64	0.91	-0.27	0.71	1.07	-0.36
1958	5.68	5.74	-0.05	2.20	1.85	+0.35	1.28	1.40	-0.12	0.63	0.79	-0.16	0.72	0.76	-0.04
1959	6.31	6.05	+0.26	2.45	2.09	+0.36	1.40	1.27	+0.13	0.73	0.84	-0.11	0.86	0.90	-0.04
1960	7.43	7.40	+0.03	2.86	2.54	+0.32	1.72	1.57	+0.14	0.92	1.19	-0.27	1.01	1.12	-0.11
1958 I	5.68	5.89	-0.21	2.18	1.91	+0.28	1.29	1.43	-0.13	0.63	0.82	-0.19	0.74	0.80	-0.06
1958 II	5.60	5.71	-0.10	2.19	1.80	+0.39	1.23	1.43	-0.20	0.66	0.80	-0.14	0.70	0.71	-0.01
1958 III	5.71	5.68	+0.03	2.24	1.84	+0.40	1.27	1.37	-0.10	0.63	0.80	-0.16	0.70	0.77	-0.07
1958 IV	5.82	5.77	+0.05	2.24	1.90	+0.34	1.35	1.35	—	0.63	0.78	-0.15	0.74	0.75	-0.01
1959 I	5.82	5.71	+0.11	2.32	1.93	+0.39	1.22	1.21	+0.02	0.66	0.79	-0.13	0.76	0.79	-0.03
1959 II	6.17	5.90	+0.28	2.39	2.07	+0.32	1.42	1.22	+0.20	0.66	0.82	-0.15	0.84	0.87	-0.03
1959 III	6.45	6.09	+0.37	2.47	2.14	+0.33	1.47	1.22	+0.25	0.77	0.87	-0.09	0.90	0.94	-0.05
1959 IV	6.76	6.49	+0.28	2.62	2.22	+0.40	1.52	1.45	+0.07	0.79	0.88	-0.08	0.96	1.00	-0.04
1960 I	7.50	7.29	+0.21	2.86	2.44	+0.41	1.83	1.58	+0.24	0.88	1.18	-0.29	0.92	1.13	-0.20
1960 II	7.33	7.24	+0.09	2.78	2.59	+0.19	1.65	1.45	+0.20	0.94	1.14	-0.20	0.99	1.02	-0.03
1960 III	7.32	7.46	-0.15	2.76	2.48	+0.27	1.72	1.61	+0.11	0.92	1.24	-0.31	1.06	1.18	-0.12
1960 IV	7.74	7.58	+0.16	2.98	2.61	+0.37	1.87	1.63	+0.24	0.92	1.21	-0.29	1.08	1.17	-0.09
1961 I	7.88	7.84	+0.04	3.14	2.58	+0.56	1.77	1.61	+0.16	0.97	1.30	-0.33	0.99	1.30	-0.31



NIESR price index numbers (a)											Commodity prices										
Current U.K. import prices				Exports, primary producers	Exports, overseas sterling area	Exports, Latin America	Agricultural exports of primary producers		Wheat	Sugar	Tea	Coffee	Cocoa	Rubber	Cotton	Wool		Copper	Softwood		
Total	Food, tobacco	Industrial materials	Fuels				Total	Food	Non-food	Can. \$ per 60 lb.	U.S. cents per lb.	Indian rupees per lb.	U.S. cents per lb.	U.S. cents per lb.	d. per lb.	cents per lb.	Merino d. per lb.	Cross-bred d. per lb.	£ per ton	Index	
1957 = 100																					
Average of daily or weekly prices																					
1950	104.0	106.4	104.8	96.1	103.9	103.4	104.5	101.5	101.4	101.7	1.73	3.46	2.30	50.5	32.2	33.3	37.0	164	91	179	66
1951	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	1.64	3.15	2.24	54.2	35.6	30.8	42.3	199	126	220	99
1952	94.9	100.4	91.0	91.8	91.2	92.5	89.2	90.4	95.0	83.1	1.63	3.50	2.57	48.6	44.4	23.5	36.2	89	59	197	102
1953	94.5	101.9	90.3	87.4	88.9	91.4	83.8	86.5	90.7	79.7	1.68	3.14	2.12	39.5	37.7	25.5	35.7	76	58	238	95
1954	94.7	100.8	93.7	84.6	92.6	96.6	85.6	91.2	91.6	90.8	1.68	2.88	2.18	37.0	37.6	28.5	36.1	93	67	235	95
1955	96.0	102.8	94.4	83.8	93.2	97.2	86.9	92.1	90.5	94.5	1.66	2.86	2.73	36.3	37.3	31.1	33.6	98	71	228	95
1956(a)	98.0	104.2	97.9	83.6	94.6	99.1	86.3	93.1	90.4	97.3	1.65	3.01	2.54	36.0	34.1	35.2	32.9	96	74	249	97
1956(b)	97.9	102.7	99.0	83.1	95.5	99.0	86.7	93.5	90.5	98.4	1.66	3.01	2.33	36.7	28.6	34.6	33.3	93	73	259	102
1957	96.5	99.1	99.7	82.3	95.5	99.7	86.4	93.1	88.2	101.1	1.68	3.02	2.24	37.4	28.1	37.6	34.2	95	74	254	105
1958	96.5	102.3	96.9	81.7	93.3	96.5	86.9	89.8	88.1	92.7	1.66	3.27	2.96	36.4	28.5	30.0	33.0	84	67	245	107
1959 I	94.3	99.2	94.8	81.0	90.6	95.1	82.9	86.0	84.4	88.4	1.65	3.25	2.62	36.4	27.7	26.5	32.3	83	67	226	107
1960 I	93.0	96.3	94.6	81.3	89.1	94.0	81.3	83.3	82.3	84.7	1.68	3.25	2.52	36.3	23.5	24.8	32.3	82	67	220	107
1961 Jan.	92.9	94.4	96.0	81.6	88.9	94.2	81.3	84.6	84.2	87.8	1.67	3.17	2.47	37.2	21.9	24.2	32.4	86	69	223	107
February	94.7	98.8	96.6	80.4	91.4	96.2	83.7	86.7	85.5	88.7	1.67	3.27	2.37	37.0	20.4	25.5	33.3	87	69	226	107
March	94.1	97.5	96.2	80.3	90.9	95.2	83.5	86.6	84.4	90.2	1.67	3.40	2.37	37.0	22.7	26.2	33.7	93	71	229	107
April	94.4	98.0	96.8	79.9	91.7	95.7	85.1	86.8	84.1	91.1	1.67	3.77	2.93	37.2	22.1	26.2	34.1	96	74	242	107
May	93.0	96.1	95.3	79.8	88.8	92.9	83.6	85.0	82.8	88.5	1.67	3.43	2.61	37.8	21.9	24.9	34.1	95	72	237	108

(a) See National Institute Economic Review, No. 1, page 32, and No. 5, pages 69-70. (b) For NIESR price index numbers the figures refer to the second half of 1956.

Table 28. Gold and foreign exchange reserves

	Industrial countries													Primary producing countries					Total official holdings		
	Total	USA	Canada	EEC	West Germany	France	Italy	Netherlands	Belgium	EFTA	UK	Switzerland	Japan	Total	Sterling area countries	Oil producers	Latin America (a)	Other	Gold	Dollar	Sterling
1954	36.86	21.79	1.95	6.16	2.00	1.26	0.93	1.11	0.87	6.22	2.76	1.67	0.74	11.74	5.71	0.89	2.68	2.45	34.97	6.98	7.62
1955	37.69	21.75	1.91	7.55	2.40	1.91	1.17	1.11	0.96	5.71	2.12	1.74	0.77	11.69	5.40	1.02	2.67	2.56	35.44	7.29	7.57
1956	38.56	22.06	1.94	7.74	3.40	1.18	1.24	0.96	0.97	5.87	2.13	1.81	0.94	12.03	5.14	1.53	2.80	2.57	36.09	8.27	7.39
1957	39.50	22.86	1.84	8.08	4.10	0.65	1.35	0.97	1.00	6.20	2.27	1.88	0.82	11.34	4.73	1.95	2.38	2.28	37.36	7.92	7.02
1958	41.36	20.58	1.95	10.46	4.60	1.05	2.08	1.39	1.34	7.50	3.07	2.06	0.86	10.43	4.36	1.59	2.37	2.42	38.07	8.66	6.69
1959 I	41.29	20.49	1.90	10.33	4.10	1.25	2.25	1.42	1.30	7.60	3.14	2.05	0.97	10.63	4.55	1.60	2.16	2.33	38.30	8.62	6.68
1959 II	41.48	19.75	1.94	11.02	4.14	1.63	2.52	1.37	1.36	7.66	3.17	2.03	1.10	10.70	4.64	1.53	2.21	2.31	37.91	8.97	6.64
1959 III	43.79	19.58	1.95	13.25	3.98	1.86	2.91	1.38	1.33	7.80	3.28	2.00	1.21	10.79	4.74	1.37	2.27	2.41	37.93	9.23	6.73
1959 IV	41.75	19.51	1.88	11.78	4.53	1.72	2.95	1.35	1.22	7.26	2.74	2.06	1.32	11.01	4.93	1.21	2.32	2.55	37.87	9.15	6.97
1960 I	41.77	19.46	1.86	12.06	4.68	1.85	2.83	1.40	1.29	7.03	2.78	1.87	1.36	11.20	4.91	1.17	2.47	2.65	37.84	9.00	6.97
1960 II	43.03	19.36	1.78	13.24	5.54	1.99	2.90	1.47	1.35	7.20	2.89	1.90	1.45	11.20	4.72	1.07	2.60	2.80	38.11	9.60	7.11
1960 III	44.20	18.73	1.82	14.31	6.34	2.11	3.08	1.56	1.22	7.68	3.11	2.11	1.66	10.76	4.40	1.02	2.53	2.81	38.15	10.11	7.15
1960 IV	44.57	17.80	1.84	15.06	6.74	2.07	3.08	1.75	1.42	8.05	3.23	2.32	1.82	10.50	4.23	1.00	2.40	2.88	38.05	10.38	7.08
1961 Jan.	44.17	17.48	1.90	14.90	6.66	2.14	2.97	1.69	1.44	8.00	3.25	2.33	1.88	10.53	4.21	1.12	2.37	2.84	..	10.14	..
1961 Feb.	44.18	17.41	1.92	15.00	6.72	2.23	2.94	1.66	1.46	7.91	3.19	2.30	1.94	10.58	4.26	1.15	2.33	2.84	..	10.17	..
1961 March	44.91	17.43	1.94	15.53	7.08	2.40	2.94	1.67	1.44	8.01	3.02	2.54	2.00	10.66	4.26	1.21	2.32	2.86	38.06	10.30	7.16
1961 April	47.43	17.43	1.94	15.19	6.69	2.47	2.95	1.66	1.42	7.91	2.95	2.53	2.04	10.56	4.23	1.19	2.29	2.85			
1961 May	44.72	17.45	1.96	15.40	6.70	2.61	3.00	1.65	1.44	7.95	2.90	2.55	1.97			1.15					
1961 June	17.60				7.24	2.78		1.68	1.47		2.77	2.60	1.91								

(a) Excluding Venezuela



## NOTES ON STATISTICAL APPENDIX

### GENERAL NOTES

#### Country groups

The following country groups are used ; they include all the countries listed against them, unless stated otherwise.

*Industrial countries* : USA, Canada, EEC, EFTA and Japan.

*North America* : USA and dependencies, and Canada.

*EEC* : Belgium-Luxemburg, France, West Germany, Italy, Netherlands.

*EFTA* : Austria, Denmark, Norway, Portugal, Sweden, Switzerland and U.K.

*Continental OEEC* : EEC, EFTA, Greece, Spain and Turkey.

*Western Europe* : Continental OEEC, Yugoslavia and Finland.

*Primary producing countries* : All countries not included as industrial countries above, except for the Sino-Soviet Bloc, Finland, Greece, Spain, Turkey and Yugoslavia.

*Overseas sterling area* : The British Commonwealth (except Canada), British Trust Territories, British Protectorates and Protected States, Burma, Irish Republic, Iceland, Jordan, Libya, Muscat and Oman.

*Latin America* : Central America, including Mexico but excluding the Panama Canal zone, and South American countries excluding European possessions.

*Oil-producing countries, sterling* : British-protected Persian Gulf States, Kuwait, Aden, Sarawak, Brunei and Trinidad.

*Oil-producing countries, non-sterling* : Iraq, Iran, Saudi Arabia, Venezuela and the Netherlands Antilles.

*Other primary producing countries* : All primary producing countries not included elsewhere.

*Sino-Soviet Bloc* : Albania, Bulgaria, Czechoslovakia, East Germany, Hungary, North Korea, North Vietnam, Poland, Roumania, Union of Soviet Socialist Republics, and the People's Republic of China.

#### Valuation of imports and exports

Imports are valued c.i.f. and exports and re-exports f.o.b. unless otherwise stated.

#### Seasonal adjustments

A number of monthly and quarterly series have been adjusted to eliminate the estimated normal seasonal variations. The procedures used and the reliability of the adjustments were described in the article 'Seasonal corrections' in the September 1959 issue of the Review (No. 5), on pages 50-56 and on pages 42-43 of the May 1961 issue. A complete set of seasonal adjustments used may be obtained on request. The adjusted data in the tables refer to standard quarters. The main point to be noted is that all seasonally adjusted series must be regarded as containing a margin of uncertainty, depending in particular on the extent to which seasonal variation can be shown to have been regular in the past.

### NEW OR REVISED SERIES

(Full definitions and explanations were given in the *National Institute Economic Review*, number 15, May 1961, page 59-64. The notes below describe subsequent revisions.)

#### Tables 18. Volume of UK imports, by commodity

The series in this table have now been adjusted both for seasonal variations and the different quarterly number of working days. The corrections have partly been based on the seasonally adjusted figures of imports of major

classes, at current prices, as published by the Board of Trade, and partly on calculations and estimates made by NIESR. No regular seasonal movement has been found in the series relating to imports of iron and steel, and non-ferrous metals.

#### Table 25. The sterling area countries

*Australia*. The figures for reserves now include the holdings of the Government and the cheque-paying banks as well as those of the Reserve Bank.





# ANNOUNCEMENTS OF INTEREST TO ECONOMISTS

## INTERNATIONAL AWARDS

The Institute is pleased to inform readers of the Review of two prizes offered by Italian organizations:—

### Criteria for the choice of public investments and of measures for financing them

Scholars are invited to compete for a prize for a monograph on this theme by the *Foundation for the Promotion of Studies on Government Budgeting* (Fondazione per lo Sviluppo degli Studi sul Bilancio Statale): a non-profit organization, chartered by decree of the President of Italy, supported by private donations and engaged wholly in the promotion of scholarly research pertaining to governmental budgeting.

The work, which should be original and unpublished, should be submitted, by 31 July, 1962, in Italian, English, French or German (two typed copies) to the Ragioneria Generale dello Stato, Via XX Settembre 97, Roma, Italy.

The Judges will announce their decision not later than 30 November 1962. A prize of one million lire (approximately £576 at the current official rate) is offered for the best work. The prize may be divided, or withheld, at the discretion of the Judges.

Further information may be obtained by writing to the Foundation at the address above.

### The problems of new African countries, with particular reference to the present economic situation in Europe

The European Prize Cortina-Ulisse, for a work of popular science, is promoted by the magazine *Ulisse*. The eleventh annual award will be for a work on the above theme.

Only original works printed for the first time in Europe during the past five years will be considered. Author or publisher should submit five copies to the Editor, *Rivista Ulisse*, Sezione Premio Europea Cortina-Ulisse, Corso d'Italia 43, Roma, Italy, by 30 October 1961. If works are not in Italian, English, French, German or Spanish, a printed or typed translation into one of these languages must be supplied. Academic monographs or text books are not acceptable.

A prize of one million lire will be handed to the winner not later than August 1962 and the Jury will recommend translation and publication to an Italian publisher if the winning entry is not Italian.

In future years subjects for prize entries will be: work of a foreign writer on the Italian 'Risorgimento'; problems of automation; problems of communications and transport.

## ECONOMIC PLANNING IN FRANCE

In April 1961 the National Institute, with generous co-operation of the French planning authorities, organized a conference in London on economic planning in France.

A record of the Conference will shortly be published by PEP. This consists of a general review of French planning by Monsieur Pierre Massé, *Commissaire Général du Plan*; a summary of the addresses on the methods used in French planning and its application to particular industries; and a summary of the discussion and of concluding addresses by Sir Robert Shone of the Iron and Steel Board and Professor de Wolff, Director of the Netherlands Central Planbureau.

The record of the conference is being published on 14 August as a PEP PLANNING broadsheet, and will be obtainable from PEP, 16 Queen Anne's Gate, S.W.1, price 5s.

*The National Institute has agreed to publish in the Review selected advertisements and notices of Conferences, awards, vacancies and appointments wanted by economists, and other matters of direct interest to readers. Inquiries should be addressed to The Secretary, NIESR, 2 Dean Trench St., Smith Square, London S.W.1.*